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THE AMERICAN

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JULY, 1856.

ESSAYS, MONOGRAPHS, AND CASES.

Notes of a Case of Wet Gangrene of the Skin of the Abdomen, following the Application of a Seton in the Right Hypochondrium, in the Treatment of an Affection of the Liver, accompanied with Ascites. By PEDRO VAVASSEUR, M.D. Translated from the Spanish (*Anales de la Sociedad de Medecina Montevideana, May*, 1855), by J. O. BRONSON, M.D.

M. O., an unmarried female, aged 50 years, of lymphatic nervous temperament, very delicate, and of extreme sensibility, had enjoyed very good health, menstruating regularly, until within three or four months past. She had always a good appetite; her digestive powers were slow and weak; the alvine evacuations a little difficult, still there was no gastric pain. From time to time symptoms of flatulency appeared without vomiting, which yielded to some stimulating draught. She had always been very regular in her habits, but still suffered, as she had for the space of nine or ten years, much moral depression, on account of the political state of the Argentine Republic, of which she was a native. Being in the habit of reading works on popular medicine, she had used an infinite number of remedies for her minor ailments.

For something like three months she had noticed a change in her digestive functions. Her appetite failed, and she suffered alternately, diarrhœa and constipation, and at last noticed a slight elevation in the lower part of the abdomen, for which she took drastic purgatives, especially Brandreth's pills. Experiencing no alleviation, and becoming alarmed at the swelling of the bowels, she consulted me on the 24th of April last.

Her condition was as follows:—Emaciation, extreme; complexion, sallow; expression of countenance, febrile; pulse, frequent (100 per minute), hard, and vibrating but a little, full; tongue, white in centre, with red borders; mouth, bitter; and some tenderness of the epigastric region, which was noticed to be a little elevated.

Percussion indicated the presence of an elastic fluid in the stomach and intestines. The urine was scanty, dark and turbid. Stools, small in quantity and dry. Her appetite was gone, but she had a constant desire for acid drinks. Examination in the hepatic region by palpation and percussion discovered nothing pertinent; but attention was attracted to a tumor, situated in the right hypogastrium, about the size of a child's head, extending from the crest of the ilium to the linea alba, and its upper border reached the breadth of three fingers above the last rib. It being indolent and exhibiting fluctuation, left no doubt of the existence of a large quantity of fluid. My first opinion was that it was encysted dropsy of the ovary. In fact, the suppression of menstruation, being unaccompanied with pain, and the situation of the tumor, confirmed me in this opinion, notwithstanding there was no distinguishing symptom to make it absolute.

In view of the febrile symptoms, of the constipation, of the irritation of the intestinal tube, of the scantiness of the urine, I prescribed a light decoction of the root of asparagus, with one grain of the nitrate of potassa, and a laxative enema, recommending, also, a strict diet.

The family becoming alarmed at the opinion that was formed concerning the seriousness of the malady, proposed a consultation, to which I at once acceded. On the following day, Drs. Cordero and Peralta met me.

After examining the case we found as follows :—The febrile symptoms, gastro-intestinal irritation, and tympanitis had disappeared; the tongue was more natural, but a little white; the thirst less, and no bad taste in the mouth; the pulse had lessened in frequency to 75 pulsations, a little vibrating, but much softer; the urine sufficiently abundant, and less loaded; the stools copious and natural. The tumefaction in the lower part of the bowels, appeared to me a little diminished; and not without great surprise I noticed it had extended to the left side, and that the circumscription that had been noticed the day before, had entirely disappeared. This left me no reason for believing any longer in the existence of an encysted tumor.

I caused my colleagues to take particular notice that I had employed all possible means for avoiding error, and that it was absolutely not possible to know whether she had had like changes on any previous day. May be it was so; the manifest fluctuation in the lower part of the bowels, and the increase of the tumor upon the downward side whenever the woman was lying upon either side, left as little doubt of the presence of ascites.

Was this collection of water idiopathic or symptomatic, and what was the cause of it?

In considering the case with the greatest care and without haste, every one of us was convinced that the functions of respiration, of the heart and the great vessels, presented no abnormality. It was necessary to fix the cause within the organs of digestion, and keeping in view the previous history of the case as she gave it—the old disorder of the digestive functions, though transient and light; the irregularity of the alvine evacuations; the sallowness of the complexion; the scantiness and high color of the urine, &c.;—we were induced to believe the disease was owing to an obscure, chronic affection of the liver, although it was not possible to find anything in this organ, nor, indeed, in any other of the abdominal organs and vessels. In fact, there was nothing to be found in the right hypochondrium—no other tumor could be discovered. There was no abnormal hardness, and the patient did not at any time have pain or tenderness in her bowels. Consequently we class-

ified the disease as ascites, caused by a chronic affection of the liver, the nature of which we were unable to determine; but there was certainly obstruction in the portal system, and to it most certainly we could point, as accounting for the fluid in the abdomen.

Our prognosis was unfavorable.

Agreeably with the above exposition, Dr. Cordero proposed the application of a seton in the hepatic region. This proposition was assented to without discussion by Dr. Peralta. As to myself, I did not think such means efficacious in like cases; and, moreover, the feebleness and extreme sensibility of the patient, strengthened me against it. These objections were refuted, and I yielded to the opinion of my colleagues. Dr. Cordero proceeded at once to perform this small operation, which presented nothing worthy of notice more than unusual thinness of skin, entire absence of adipose tissue, and the very small quantity of blood following the incisions. We agreed, however, in the use of diuretic preparations and of iron. After the seton was inserted, friction with camphorated mercurial ointment was prescribed. Light but nutritious diet was recommended. Agreeably with these resolutions, the prescriptions were as follows:—

℞ Rad. asparagi (off.) ℥j
Aq. fontanæ, oj
ft decoc. et add
Syrup. quinque radic. ℥ij
haustus cyathus sumendus.

℞ Rad. scillæ, pulv. gr.vj
Ferri pulv. gr.xij
Eset cichosu
Rad. glycyr. pulv. aa q. s.
ft pil xij tres gran. e quibus sing. quaque nocte.

Upon the morning of the second day, the patient was without fever, and had passed a good night, with the exception of being disturbed by the pain of the seton. The urine was notably more abundant, clearer, and more natural, and during the night two copious, feculent stools were produced. Emollient cataplasms were applied to the seton, and the previous remedies continued.

Upon the third day, the pain from the seton was less, the

border of the incision was red and somewhat swelled, the urine improved in quantity and quality, and one alvine evacuation of the same character as the previous day. The abdomen had come down about half an inch under the use of the remedies.

On the fourth day, the patient complained much of the seton, but in other respects felt relieved. All of that portion of the skin comprised within the two mouths of the seton and the immediate tumefaction, was very red and painful. I did not draw the string, in order not to irritate the wound more, dressed it with simple cerate, and prescribed a continuance of the emollient applications.

On the fifth day, there was less pain. The redness and tumefaction was considerably diminished, the suppuration had commenced, and I drew the string *secundum artem*. Moreover, the urine was abundant and nearly natural, and there had been three copious evacuations. The bulk of the abdomen had decreased one inch and a half, as compared with previous measurement. The patient was easy, and had some appetite. The same remedies and applications to be continued.

The two following days she remained much the same. The seton suppurated abundantly, and the pus was of good quality. In the meantime the patient complained of a sense of constriction and some pain. The abdomen had decreased one inch, one or two alvine evacuations had been produced, and the appetite and digestion became natural. Continue the same treatment.

On the eighth day, the patient had not slept, on account of the pain from the seton. The skin was perceived to be swelled, red, phlegmonous, and being gently pressed, a large quantity of reddish pus, of bad appearance, issued from the wound. In order not to irritate the wound, and to give free outlet to the suppuration, I made the string, which was of leather, smaller.

On the following day, the ninth, the suppuration was active, and of a good character. Pain enough from the seton, and in the midst of the opening there appeared a little vesicle, full of serosity. This was broken, and in the bottom of it was to be seen a spot of a leaden color. I did not draw the seton, but ordered a continuance of all the remedies.

On the tenth day, the spot had extended more than two lines

in all directions, and its black appearance left no doubt in my mind of its gangrenous quality. The pain was severe and accompanied with heat. Convinced that these symptoms of gangrene, as they appeared to me, were owing to the extreme irritation caused by a foreign body (the seton), and dreading its advancement, because of the effect which mortification would produce in one already so emaciated, I did not hesitate to remove the seton, and dress the wound with the cerate of Galen, and have the emollient applications oftener repeated. I hoped, in virtue of the axiom, *sublata causa, tollitem effectus*, to limit the gangrene to that portion of the skin comprised between the two incisions, and afterwards see the wound close very promptly. But my hopes were blasted. In fact, the three following days, in spite of more methodical dressings, and of the uninterrupted use of the most efficacious emollient applications, the gangrene continued to spread two or three lines in circumference every day. At the end of the fourteenth day, alarmed by the progress of the mortification, and convinced of the inutility of following that plan any longer, I resolved to change the method, and try antiseptics and tonics, in spite of the red color of the skin, and, in fact, dress the wound with a mixture of equal parts of powdered quinine, camphor, and charcoal of poplar wood, and apply one thickness of lint soaked in aromatic wine. I recommended, also, to cover all these with a large, thick compress, wet in the same wine. For four days I continued these remedies, without perceiving any very apparent change, excepting, it appeared to me, the gangrene progressed a little more slowly. The general condition of the patient was a little more or less the same ; the appetite regular ; the pulse natural through the day, but somewhat accelerated at night. The urine had decreased, but the alvine evacuations, of which there had been two or three in twenty-four hours, were abundant and natural.

Pained by the ill-success of my endeavors, and fearing the consequences of a great loss of substance, and such abundant suppuration in a person already so debilitated, I asked another consultation, and the following (19th) day was appointed for consultation with Dr. Peralta, alone. After examining all things, my colleague ascribed, as I had in the beginning, the

cause of all these accidents to an excess of inflammation, and proposed to combat it by the most efficacious antiphlogistic measures; *verbi gratia*, by an application of leeches around upon the red border circumscribing the gangrenous part, bathing with water of the root of althea and linseed, and continual fomentations of the same articles, mixed with milk, and inwardly mucilaginous drinks, and very light diet. I combatted these ideas as well as I was able, arguing on the little or no advantage which accrued on previous days, when I had followed the plan proposed by him; in the alleviation I had obtained by my second method in the spread of the gangrene; in the state of extreme debility of the patient; in the feebleness of the pulse; and, finally, in the fear which seized me, that every one of the leech-bites might be converted into a new spot of gangrene. I moreover showed to him that the inflammation of the dermis which here existed, was not that of phlogosis clear and decided from excess of vitality, and it would be better to consider it as irritation, spurious and of bad character, owing to the unyielding of the tissues. After an animated discussion, we agreed to try vigorous antiphlogistic measures for 24 or 36 hours, with the exception of leeches, which I formally opposed. According to the agreement, I cleansed the ulcer and the surrounding integuments of the powders with which it had been dressed, and dressed it with lint and simple cerate—applying the fomentations over that, and recommended her to use the lotion every three hours, and prescribed gum water with lemon juice, and a very light diet.

At the end of 24 hours, Dr. Peralta came back to see the patient, and with him Dr. Gaffarot. I was astonished at the progress of the ulceration in so few hours (more than one inch and a half in all the circumference of the part involved, principally downwards and toward the linea alba). The heat of the inflammatory circle was scarcely red. There was discovered an œdema of the skin in all the lower part of the belly, and extending down to the mons veneris, retaining the impression when pressed upon by the finger. Moreover, we had not only lost all the gain on the size of the belly, but there was evidently an increase of the serous collection.

Dr. Peralta confessed with much sincerity the inappropriate-

ness of the course pursued, and acceded, without discussion, to my proposition to return to the treatment by antiseptics and tonics, in their breadth and strength, both externally and internally. In this I was strongly supported by Dr. Gaffarot. Accordingly, then, we three agreed to dress the ulcer with the powdered quinine and camphor, with the addition of half a drachm of tonic acid to the ounce; with lint spread with ointment of styrax, and fomentations over the whole extent of the abdomen, to be renewed every moment, of aromatic wine enlivened by one ounce of tincture of camphor, and a scruple of tannin for every ounce of wine.

Moreover, we prescribed a light decoction of quina, distilled cinnamon water, and syrup of orange peel, with a nourishing diet, and a little good old port wine after eating. It is unnecessary to say that she abandoned the use of the pills of squills and iron, which the patient had taken until then.

Evidently the prognosis was serious; since, to the danger of the previous and original disease was added, what we feared the most immediate danger from, the gangrene of so great extension. In fact, supposing it favorable for the limitation of the mortification, we could not but dread the effect, on a constitution so weak, of so great suppuration, or the absorption of pus.

This course was observed with great care for the space of four days, and it appeared to me that the progress of the gangrene was less rapid; the strength generally was maintained well enough, and the pulse was much more natural. The patient had no pain, except an uncomfortable constriction in the abdomen, and she complained principally of want of sleep.

On the fifth day, the 25th after the application of the wretched seton, I noticed that the gangrene had reached a limitation in the upper part of the spot where the seton had been; since a circle of a legitimate color, and a line of white suppuration had appeared upon the border around, about three inches. Moreover, the slough appeared to be loose. On the the 29th day, the upper part of the slough had become loose, and I determined to cut away all that was separated; that is to say, more than three inches long and over two inches broad. The wound underneath the escar was red, fair, and gave out

pus of a good quality. That part was dressed with lint and simple cerate, using the other remedies on the remaining portion, as the mortification continued there, although with no great vigor. The œdema had completely disappeared, and I was led to conceive the hope of seeing a limitation entirely to the gangrenous action. The upper, clean part of the wound advanced properly and began to give signs of cicatrization. On the 32d day, another portion of the slough, $3\frac{1}{2}$ inches broad by 5 inches long, becoming loosened, I cut it away, and underneath it could see, as in the first instance, the wound reddened and covered with healthy suppuration. I dressed it with lint and simple cerate. The progress of the gangrene, which continued to extend towards the *pudendum* and linea alba, did not gain more than half a line in 24 hours. The bulk of the abdomen appeared to remain stationary.

In a few days, the gangrene had reached its limit, and nearly the whole slough was removed, leaving only a small portion at the inferior part, which fell off of its own accord on the following day. The ulcer in its other parts was clean, of a healthy color, and covered with granulations very much like a burn in the second stage, and poured out abundant suppuration, but of a healthy character. Discontinuing the tonic applications, I dressed this immense suppurating surface—which extended from above, beneath the breast, as far as the mons veneris, and in breadth from a point on a level with the crest of the ilium to the linea alba, occupying, in a word, one-half the abdomen—with simple cerate.

From that time it began to cicatrize with the same rapidity it had before passed into a state of gangrene. The suppuration was very abundant and of a better nature.

The bulk of the belly decreased remarkably, and her general condition was very flattering.

But by measuring—as the quantity of pus grew less, the suppurating surface every day becoming smaller—the ascites began to make a little progress. At the end of twenty-one days from the time the gangrene was checked, there remained of this immense wound but three small suppurating points, not more than one inch in size. All the other surface was covered with a healthy, firm cicatrix.

Still the volume of the abdomen increased every day; the œdema manifested itself first in the right leg, and soon after in the other—the urine, in the meantime, becoming scanty.

It appeared to me an opportune time for the exhibition of diuretics with iron, but they were without effect, excepting the alvine evacuations were more abundant and more frequent. The swelling of the belly, and the œdema, continued to increase. The work of cicatrization suddenly ceased, which, to this time, had been so active, and the three openings put on a bad color, and poured out pus of a grey, glutinous nature; and three or four black spots appeared in various parts of the cicatrix principally in that part where gangrene commenced the first time. I had recourse again to the tonic and antiseptic plan, but all to no purpose, for the mortification made new progress. The œdema and the dropsy increased more and more every day, until they extended on both sides to the waist; the appetite and sleep were lost; the pulse was feeble and small. From time to time there appeared a little dyspnœa, and some sharp pain in the hepatic region, which extended to the heart. In a word, the general condition left no hope of preserving the poor patient's life, but a very short time.

At last, on the morning of the seventh of July, the patient asked the consolations of our sacred religion. She kneeled to partake of the sacrament, and being raised up, breathed two or three times, and quietly died without a struggle.

In spite of all my efforts, it was not possible to have an autopsy, consequently these observations are incomplete.

This case appears to me to present some points worthy of faithful attention, viz:

1. The circumscription of the ascites in the right side at the beginning, which led me to believe it to be encysted dropsy.

2. The danger which is likely to follow the application of a seton, in one so much debilitated, and, moreover, whose tissues are so very thin, and almost without vitality.

3. The difference presented between certain inflammations, and the treatment indicated.

4. The diminution of the collection of water under the influence of very abundant suppuration.

5. Lastly, the rapidity with which cicatrization occurred, after the limitation of the gangrene, and the throwing off the escar.

Selections from Favorite Prescriptions of Living American Practitioners. By HORACE GREEN, M.D.

Excitants and Alteratives. (*Continued.*)

Not only in the preceding diseases—severe folliculitis, and secondary, or constitutional disease,—has this combination of the iodides, the *hydrargyro-iodide of potassium*, been found useful, but its administration in many obstinate cutaneous affections has proved, in our hands, to be highly advantageous.

℞ Extract Conii, ℥iss
Proto-Iodid. Hydrarg. gra. iv
Potassæ Iodidi ℥iij
Tinct. Cardamon, ℥ij
Syr. Sarsa. Co. ℥iv
Fiat mistura. Capiat. cochl. parv. bis terve in die.

This preparation, administered as above, may be employed in the treatment of lupus, lepra, and other obstinate cutaneous affections, especially those of a scaly character, with safety and advantage. With my colleague, Prof. J. M. Carnochan, Surgeon-in-Chief to the State Hospital, Donovan's solution—which is a combination of iodine, arsenic, and mercury—is a favorite remedy in the treatment of lupus, venereal eruptions, impetigo, and other chronic, cutaneous diseases.

℞ Liquor Arsenici et Hydrarg. Iodid. ℥ss
Syr. Sarsa. Co. ℥viij
M. Sumat cochl. una parv. ter quotidie.

In laryngeal and bronchial disease, and also in the early stage of phthisis, when any degree of febrile action is present, the iodide of potassium, in combination with antimony, will frequently prove more useful than when administered alone.

℞ Potass. Iodidi. ℥ij
Antimon. et Potass. tart. gra. ij
Syr. Zinziber.
Aquæ font. aa ℥iij
Fiat mistura. cujus sumat. cochl. parv. bis in die.

Or we may, under the same circumstances, exhibit the following:—

℞ Potass. Iodidi ℥iiss
Syr. Ipecac. ℥ij
Aquæ font. ℥iv
M. Copiat cochl. parv. bis terve in die.

A combination of the medicinal hydrocyanic acid, with a solution of iodide of potassium, constitutes a favorite remedy with some practitioners in the treatment of phthisis.

℞ Potass. Iodidi ℥ij
Acidi Hydrocyanici, gtts. xl
Syr. Sarsa. Comp.
Aquæ font. aa ℥ij
Ft. mist. Sumatur cochl. min. mane ac nocte.

Although, as we have stated, the iodide of potassium is a better preparation for administration than the iodine, in most forms of disease; yet, when indications of a scrofulous diathesis are present, especially in young persons and children, it will be preferable, and will frequently prove more efficacious, to exhibit the two preparations in combination.

℞ Iodini gra. x
Potass. Iodid. ℥i
Syr. Rhei.
Aquæ puræ. aa ℥ij
Fiat mistura, date cochl. parv. ter in die.

Few remedies will be found more efficacious for promoting the absorption of glandular swellings in the neck, or of those in other parts of the body, than the following preparation:—

℞ Iodini gra. x
Potass. Iodid. ℥i
Liquor Potass. ℥i
Syr. Sarsa. ℥iij
Fiat solutio. Capiat cochl. parvum bis in die.

In the treatment of hypertrophy of the heart, and in other diseases of this organ, when it is important to reduce vascular action, the subjoined mixture may be advantageously exhibited.

℞ Potass. Iodidi ℥iiss
Tinct. Hyoscyami
" Digitali. aa ℥ss
Syr. Sarsa. Co. ℥v
Fiat mistura, date cochl. min. mane ac nocte.

The combining of iodine and iron was first practised by Dr. Pierquin, and the product of this combination—the iodide

of iron, was employed by him for the treatment of disease, in 1824, although the credit of first introducing the remedy into medical practice, is attributed to Dr. Thompson, of London.

The iodide of iron is a valuable therapeutic agent. In its operation on the system it is considered to be more nearly allied to the preparations of iron than to those of iodine. In scrofulous debility, in strumous enlargements of the glandular system, in chlorosis, and amenorrhœa, and in most affections, where ferruginous preparations are indicated, the iodide of iron has been found especially useful. It is most frequently administered in the form of a syrup. Syrup of the iodide of iron may be used as a tonic in doses of from xv to xxv drops, twice daily, in the treatment of any of the preceding diseases.

Several years ago, Dr. Dupasquier, of Lyons, published some interesting statements in regard to the favorable effects of the proto-iodide of iron in the treatment of pulmonary phthisis. An eminent physician of New Orleans, who has had much experience in the treatment of thoracic disease, strongly recommends in phthisis, chronic bronchitis, &c., the following combination :—

℞	Syr. Ferri. Iodidi		ʒvi
	Potass. Iodidi		gra. xii
	Glycerinæ pur.		
	Syrupi. Limonis	aa	ʒi
	Aquæ font.		ʒiv

Fiat mistura, cujus capiat cochl. ampl. ter in die, ante cibum.

It is highly desirable that so important a therapeutic agent as the iodide of potassium should be of such a degree of purity as not to affect its medical use. But, unfortunately, not only impurities, but adulterations of the commercial article are often found to exist. It is frequently found adulterated with carbonate of potassa, with the chloride of sodium, and when not prepared with care, will often contain the iodate of potassa. Some test, therefore, which will enable us to detect these adulterations easily and with certainty, is quite desirable. When adulterated with carbonate of potassa, it may readily be detected by dissolving the suspected article in alcohol. Iodide of potassium which contains no water of crystallization, is freely dissolved by alcohol; but the carbonate of potash will not dissolve. A very simple and certain test is given in a late

number of the *London Pharmaceutical Journal*, to detect the presence of either carbonate or iodate of potash. This is the *syrup of the iodide of iron.* To a small amount of the iodide of potassium in solution, add a drop or two of the syrup of iodide of iron. If pure, no change will be produced ; but if carbonate of potash be present, a *pale blue* precipitate is formed at once. If the specimen contain iodate of potassa, a *red* precipitate occurs immediately. If both carbonate and iodate of potash are present, on adding the test, first a deeper blue, and then a red precipitate will be found. If the usual precautions, as to equal quantities, &c., are observed, with the samples examined, the resultant precipitates will show the relative amount of the adulterating agents in each. We have used this test frequently, in examining different preparations of the iodide f potassium, and have found it efficient in detecting their presence, when these adulterations have existed.

Seventh Annual Report of the Governors of the Alms House, New York, for the year 1855.

This Report is of great interest to medical men, as it contains the Reports of the following Hospitals, viz : Bellevue Hospital, Blackwell's Island Hospital, Small Pox Hospital. Nursery Hospital, Colored Home, and Lunatic Asylum. In these Hospitals, *twelve thousand eight hundred and sixty-six patients* were treated during the year 1855. Our limits will only permit a brief abstract of the Medical Reports of each of these Hospitals.

BELLEVUE HOSPITAL.

Medical Officers. Jan. 1*st*, 1856.

Consulting Physicians—Drs. John W. Francis, (Pres't of the Board), and Isaac Wood.

Visiting Physicians—Drs. Alonzo Clark, Benj. W. McCready, Isaac E. Taylor, George T. Elliot, B. Fordyce Barker, and John T. Metcalfe.

Consulting Surgeons—Drs. Valentine Mott, and Alexander H. Stevens.

Visiting Surgeons—Drs. James R. Wood, Lewis A. Sayre, John A. Lidell, John J. Crane, Stephen Smith, and Charles D. Smith.

House Staff.

House Physicians—Drs. C. L. Ives, Wm. H. Draper, and James D. Galt.

House Surgeons—Drs. George K. Amerman and William Frothingham.

Assistant Physicians—Drs. Henry C. Pointer, Henry Janes, and Homer O. Hitchcock.

Assistant Surgeons—William Gentry, John M. E. Wetmore.

Apothecary—John Frey.

The whole number of patients treated during the year 1855, was	6,697
Died,	629
In the lying-in department, there were—	
Births,	306
Labors,	303
Deaths,	7
The deaths were—	
Puerperal Fever,	3
" Convulsions,	2
" Peritonitis,	1
Rupture of Uterus,	1

Of the whole number of deaths, *one hundred and sixty-seven* died within *five days* after admission; and *one hundred and ninety-two* from consumption. There were *fifty* Coroner's cases.

The Governors have made a noble addition to the Hospital during the last year, a four story building of stone, containing fifteen wards, each having twenty beds, a bath room and a water closet. The other arrangements for heating and ventilating the wards are very complete. The Governors are about to add another story to the main building, so that when these improvements are completed 1200 patients will be amply accommodated. This Hospital will then surpass,—in its size, the perfection of its arrangements, in salubrity and beauty of location, and advantages for clinical teaching,—any other general Hospital in the world.

BLACKWELL'S ISLAND HOSPITALS.

These Hospitals are under the charge of Wm. W. Sanger, M.D., Resident Physician. His staff are the following assistant physicians: Drs. Reed, Hurd, Abrahams, Flournoy, Magoffin, White, and Packard. Dr. Sanger's report is a model one, and exhibits him as a working executive officer, of the highest order of talent. It contains 21 tables, grouping a series of facts of great interest and importance. The first table is a complete and comprehensive medical history of the Hospital during the year 1855. The whole number under treatment was 2,657.

We have not space to analyze the series of interesting facts presented in the other tables. We can only glance at a few of them. Table E shows the proportion of natives admitted was $29\frac{1}{10}$ per cent.; foreigners, $70\frac{9}{10}$ per cent. Of the foreign born patients, $88\frac{1}{10}$ per cent. were British subjects; from Germany, $7\frac{7}{10}$ per cent.; from all other countries, $3\frac{5}{10}$ per cent. From Table G we learn the melancholy fact that over 73 per cent. were under 30 years of age.

Table H shows the degree of education possessed by those admitted. The $52\frac{3}{10}$ per cent. that "can read and write imperfectly" are hardly one degree removed from the 33 per cent. "uneducated." Of the total number admitted,

Can read and write well,	-	$13\frac{5}{10}$ per cent.
" " " " imperfectly,	-	$52\frac{3}{10}$ "
Uneducated, - - - -		33 "
Unascertained, - - - -		$1\frac{2}{10}$ "

Table K shows the fact that $88\frac{1}{10}$ per cent. of all admitted during 1855 were drinkers of intoxicating liquors; and there is no disguising the fact that those marked as "Temperate" or "Moderate Drinkers" could be classed under the heads "Intemperate" or "Habitual Drunkards." Take the three tables G, H and K, and do they not present to the Christian and Philanthropist facts of the most melancholy nature, namely: that $73\frac{7}{10}$ per cent. of those were under 30 years of age; $85\frac{3}{10}$ per cent. were almost entirely uneducated; and $88\frac{1}{10}$ per cent. were intemperate drinkers of intoxicating liquors?

Table Q shows the duration of treatment, and Table R the

results of treatment. The ratio of mortality of patients treated in the Hospital is $2\frac{3}{10}$ per cent. If the patients treated in the Penitentiary are included, the ratio of mortality is but $1\frac{6}{10}$ per cent.

The new Small Pox Hospital is now nearly completed. It will accommodate all classes, separate from each other, where they can have all the conveniences and comforts of home. The upper story is divided into private rooms for gentlemen or ladies, where they can enjoy all the privacy and more attention than they could command in their own houses.

We cannot forbear saying in this connection, that Dr. Sanger, by his wise suggestions and untiring energy, is effecting great changes in the institutions on Blackwell's Island, equally advantageous to the interests of science and of humanity.

Nursery Hospital.

This Hospital is very similar in character to the "Hospital for Sick Children," of Paris. Henry N. Whittlesey, M.D., is the Resident Physician. His assistants during the last year were Drs. A. Wilkinson and C. Knight. Dr. Whittlesey's report is very short, but to the point. During the year 1855, 2,310 patients were treated in the Hospital. There were 202 deaths. The per centage of mortality is $9\frac{5}{10}$. Scarlet fever and measles appeared simultaneously among the children in April, 1855, numbering during the months of April and May, 215 cases. This epidemic, with some mitigation in intensity, has continued until the present time, and has increased the bill of mortality, not only directly, but by its complications and the constitutional diseases which it has served to develop. A table of the diseases of those who died, is appended to the report. There died from

Measles, and its complications, -	50
Scarlet Fever, and do. - -	29
Cachexiæ of various forms, -	26
Marasmus, - - -	11

There were but 7 deaths from Dysentery,
4 " " Diarrhœa,
1 " " Cholera Infantum,
8 " " Pneumonia.

COLORED HOME.

James D. Fitch. M.D., Resident Physician; Benjamin Lee, M.D., Assistant do. Whole number of patients treated during the year 1855, - - - - 868

Deaths, - - - - - 108

38 deaths were from Phthisis,
7 " " " Dropsy,
6 " " " Tabes Mesenterica,
9 " " " Pneumonia.

LUNATIC ASYLUM.

M. H. Ranney, M.D., Resident Physician; J. O. Lansing, M.D., F. A. Smith, M.D., Assistant Physicians.

The whole number of patients treated during the year was - - - 926

Discharged during the year, - - 253

Died, - - - - 100

Remaining Dec. 31st, 1855, - - 573

The causes of death were as follows:—Consumption 29, Paralysis Generale 18, Epilepsy 7, Chronic Diarrhœa 7, Typhomania 6, Old Age 5, Congestion of the Brain 5, Inflammation of the Brain 2, Hemiplegia 3, Apoplexy 2, Typhus Fever 2, Hypertrophy of the Heart 2, Pneumonia 2, Bronchitis, Pleurisy, Hydrothorax, Ascites, Erysipelas, Scurvy, Submersion, each 1, Anasarca 3.

It will thus be seen that the opportunities for clinical study, for seeing disease, is nearly as great in New York as in Paris. In addition to the above, under the charge of the Board of Governors, we have also the State Emigrants' Hospital (nearly as large as the Hotel Dieu, of Paris), the New York Hospital, St. Vincent's Hospital, the Woman's Hospital, the New York Lying-in Asylum, and the Ophthalmic Hospital. St. Luke's Hospital, a large and beautiful hospital, will also soon be opened for the reception of patients, and for clinical instruction.

It is not improper to call the attention of the parents and guardians of young men pursuing the study of medicine, to the comparative advantages of New York and Paris in some other respects. "See Paris and die," is a saying which has some influence in professional as well as in other ranks, but it cannot

be concealed that one who devotes a year of time and a thousand dollars of money to the study of medicine in Paris, does not necessarily bring away his "quid pro quo." Both time and money are required for the voyage, and still more of each in becoming so familiar with the language, as to make attendance on the lectures really profitable. It will be placing the average of available time quite high, if we suppose that it is six months. Now, in this city there is enough to occupy a young graduate fully and constantly for more than a year. More can be seen of disease, medical and surgical, than in any other American city; for New Orleans alone has any thing like the same amount of hospital accommodation, and but few are able to remain there during the Summer months. New York, on the other hand, is a healthy city, and with the reasonable care one should every where exercise, perfect health may be enjoyed. Study may be pursued either publicly or privately, and full occupation can be found by the most industrious.

We may bring down a shower of reproaches, if we allude to another advantage which New York possesses over the gay French capital; we mean the moral. If New York be not uncontaminated by vice, it is by no means so deeply sunk in it as Paris. Temptations, fascinating as they are numerous, assail the young man abroad, far away from home and the possibility of meeting his friends. The grisette and lorette conquer where the American or Irish courtezan would be repulsed. Desire to "see the world" would there lead to the gaming table, while here the moral and religious restraints would be sufficient defences against the danger. True, it is not so sounding to speak of the time "when I was in New York," as it is of the time "when I was in Paris"; and with some it is a gratification to be able to answer "yes," when asked "have you been abroad." If one desires to travel, and has the means, it is a profitable way of passing time; but it should be known, and distinctly understood, that it is not absolutely necessary to go to Europe to obtain a thorough medical education. And the risk of moral contamination of the gayest and most dissolute metropolis in the world, need not, of necessity, be incurred.

PROCEEDINGS OF SOCIETIES.

NEW YORK PATHOLOGICAL SOCIETY.

Reported for the MONTHLY by E. LEE JONES, M. D., Secretary.

May 14. Three specimens of *tumors* were presented. The first by *Dr. Clark*, was a serous cyst in the broad ligament (not connected with the ovary) of the uterus, about the size of the two fists, which was found in the autopsy of a patient who died of gangrene of the lungs, but was not recognized during life. At first sight the doctor had believed the tumor to be ovarian, but upon closer investigation decided that it was not ; first, because there were in the same broad ligament several other distinct cysts ; and secondly, because upon evacuating the tumor no remains of the ovary could be found, which is generally the case when the effusion occurs in its structure. Upon incising its walls a clear light straw-colored fluid, amounting to about 24 oz., flowed forth.

Two tumors were then presented by *Dr. Agnew*, which showed that peculiar calcification described by Mr. Paget as a disease of fibrous tumors. The first, a large fibrous tumor of the uterus, had within it a calcified spot nearly the size of a walnut. Nothing connected with the history of the case was known, and the object of its presentation was to draw a comparison between it and a small fibrous tumor removed from the scalp of a negro, which the doctor likewise presented. In this there were several points of calcific degeneration separated one from the other by intervening fibrous texture. The tumor, which having been once removed, returned, was about the size of a hen's egg, flattened and irregular in form ; its growth had been of eleven years duration, and it presented nothing either in its history or in the microscopic examination which led to a suspicion of malignancy. The examination of the tumor had been made by Dr. Clark, who had found in it fibrous cells, but none of the bright oval cells described by Paget and Lebert.

Dr. Van Buren remarked, that while in uterine tumors calcific degeneration is very common, in sub-cutaneous tumors it is very rare; he can recall but two cases in which he has met with it, namely : in two fatty tumors which he presented to the Society some years ago.

Dr. Watts mentioned having met with a case of this degeneration in a tumor of the breast.

Dr. Gardner desired to know whether fibrous tumors of the uterus

were not much more frequent in the black than in the white female; such was the result of his experience, and he quoted in support of it a remark to that effect made by Dubois in one of his cliniques.

Several gentlemen gave confirmative replies to the question, and *Dr. Sabine* stated that in researches on the subject instituted by him at the Colored Home, he discovered that it was decidedly the exception, and not the rule, to find a negress arrived at mature years without such a growth;—almost all have one or more. And *Dr. Finnell* mentioned, that in a negro family which he attended, four females had fibrous tumors of the uterus.

Two specimens of *atheromatous degeneration* of *arteries* were presented. The first, by *Dr. Clark*, showed extensive degeneration of the arteries of the base of the brain of a person who had died of arachnitis after having been for a length of time paralyzed; the paralysis recurring suddenly and being complete on one side. At a *post-mortem examination* the basilar and upper part of the carotid arteries were found enlarged and degenerated, the same atheromatous alteration was observed in the minute branches of the vessel, and upon carefully incising the brain the remains of nine apoplectic cysts were discovered, the largest and that which probably caused the paralysis being in the crus cerebri of one side, partly isolating the Pons Varolii from the hemisphere of that side. The points of chief interest in the case were: first, the connection between the frequent occurrence of apoplectic effusions and the degeneration of the arteries; and secondly, none of the effusions having been attended with evil consequences except the last, which was so, probably, merely from its situation in the crus, cutting off so much of the cerebral force from one side. The probability is, remarked the doctor, that in the large majority of instances, apoplexy arises from rupture of arteries, which have undergone previous degeneration, but this is rather surmised than demonstrated, and we have rarely a specimen which shows so plainly the connection one with the other. We frequently see, he continued, cases of paralysis of short duration unaccompanied by any post-mortem appearance, the disease having arisen from some obstruction of the cerebral vessels; he is uncertain how long, a paralysis thus caused may last, but generally concludes when he sees it continue over two or three weeks that it depends on the effusion of a clot.

Dr. Cock showed a similar case occurring in a woman who showed (with paralysis?) the symptoms of poisoning by strychnia, the characteristic subsultus, etc. At a post-mortem examination no clot could be found although carefully sought for.

Dr. White stated that he once presented to the Society a case similar to these two, which was apparently dependent on a rheumatic diathesis ; neither of the above cases, however, had such connection.

Stricture of *urethra* and *coexisting disease of Genito-urinary system.* Two specimens showing these lesions were presented, one by *Dr. Van Buren,* in which there existed stricture of the urethra with marked hypertrophy of the bladder, and an abscess in the bulbous portion of the urethra, which communicated with the canal by a small fistulous orifice, due to perforation of its walls, by an ulcer just behind the stricture ; and another by *Dr. Hutchinson* for Dr. Kissam, showing stricture of the urethra with abscess of the prostate gland and diseases of the kidneys and ureters and bladder. The following are the histories of the cases :

Fatal extravasation of Urine (following Puncture of the bladder for retention from stricture) invading a Hernial tumor of the groin, and giving rise to symptoms simulating incarceration.

Dr. William H. Van Buren presented the bladder and urethra of a patient who died at the New York Hospital two days after admission, with extravasation of urine. The man, John Cummings, was thirty-five years of age, of careless and irregular habits, and had been suffering more or less severely from stricture, the result of gonorrhœa, for the last six or eight years. During this period *he had been twice subjected to perineal section* in consequence of complete retention of urine, but, from inattention to the necessary after treatment, he had derived no permanent benefit from either operation. His bladder had also, on two occasions, been punctured above the pubes to relieve retention; *this operation was last done two days before his admission to the Hospital,* (26th April) and according to his statement, the canula of the trocar remained in his bladder *but about eight hours after its introduction.* At the time of his admission this opening was not yet closed, and when the bladder was distended the urine sill escaped from it in small quantities. His stricture was just in front of the triangular ligament, and impassable, and his general condition very unpromising. He complained of much pain at the bottom of the belly, with frequent desire to pass water, which he voided by drops. His bladder at this time was not distended. He had a large reducible inguinal Hernia on the left side, which had never passed into the scrotum ; it had been produced some years before by straining to pass water.

He had an enema, a warm bath, and opium internally, and next

morning (April 27th) was somewhat more comfortable. About mid-day, however, he was taken with vomiting, and on examination it was found that the Hernia could not be satisfactorily reduced, as on the previous evening. There was also more pain at the bottom of the belly, and less water was voided, although the bladder could not be recognized as distended, either above the pubes, or from the rectum. Pulse 128 ; jactitation. Consultation was called at 7 o'clock P. M., when the Hernial tumor was found to be larger, more tense, very tender to the touch, and surrounded by a dusky blush accompanied by slight subcutaneous œdema. Distress, and pain at bottom of belly, increased ; passage of urine almost entirely arrested. Suspecting extravasation from some point of the urethra or bladder within the triangular ligament, it was decided to secure a free outlet for the urine by repeating the puncture of the bladder through the scarcely closed track above the pubes, and then to explore the inflamed and irreducible Hernial tumor. About ℥viij only of turbid and ammoniacal urine escaped on the introduction of the trocar, and its canula was secured in the bladder, the patient being under the influence of ether, the Hernial sac was then exposed by incision in the usual manner, and the cellular tissues surrounding it was found to be extensively infiltrated with bloody and excessively fetid urine. The infiltration seemed confined to the cellular tissue intervening between the fascia transversalis and the peritoneal sac, which was very dark in color, altered in appearance, and so thickened and distended by urine that it afforded at least four layers before the sac was reached; and, as each layer was divided, a quantity of urine, of the quality described above, gushed out of its distended cells. The finger, passed upwards and inwards towards the median line through this rotten cellular tissue, came in contact with the canula which had been introduced into the bladder, thus demonstrating both the source of the extravasation, (which had taken place through the puncture of the bladder made two days before admission,) and the reason why the hernial tumor had become so suddenly inflamed and irreducible. The hernial sac was empty. The patient continued to sink gradually and died on the following day. On examination of the body local peritonitis was found, which had produced adhesions between the bladder and neighboring intestines of several days, standing. From the vertical incision of the abdominal walls, the handle of the scalpel could be readily passed between the peritoneum and the fascia-transversalis towards and through the wound of the groin, showing the course taken by the urine, through the sub-peritoneal cellular

tissue (called by some Velpeau's fascia) towards the hernia, around which it collected, and gave rise to the symptoms simulating incarceration. The bladder and urethra being carefully removed and examined showed no other point from which extravasation could have taken place. The stricture, situated about an inch in front of the triangular ligament was *linear*, very light, and surrounded by tissue of cicatrix. Behind it the urethra was dilated, and at one point ulcerated, the ulcer leading into the cavity of a small abscess situated over the bulb, and limited externally by the fascia of the penis. The bladder shows hypertrophy of its muscular coat, thickening of its cellular tissue, and chronic inflammation, with several points of ulceration, of its mucous coat. There is also a cavity of the size of a Madeira nut in the prostate gland, containing pus mingled with prostatic fluid. The source of the urinary extravasation is therefore to be found in the premature removal of the canula after the puncture of the bladder, made two days before the patient entered the Hospital, and there was reason to believe that this had been effected by the patient himself.

The absence of the physical signs of distention of the bladder, is explained by the thickened and contracted state of this organ from previous inflammation, and also by the adhesions existing between its peritoneal coat and the adjacent viscera. There was no reason to believe that the urine had escaped into the cavity of the peritoneum; the peritonitis was local, evidently of some days, standing, and had taken its origin in the inflammation outside of its cavity in the bladder and sub-peritoneal cellular tissue.

Case of Stricture of the Urethra,—Abscess in Prostate Gland, etc.

A. C., a seaman, aged forty, ten years ago contracted a gonorrhœa for the first time, which, partly by neglect of treatment and partly by fresh exposures, became chronic, and existed as a gleety discharge, with occasional exacerbations and occasional intermissions, for a period of two years.

At the end of this time he began to experience dysuria, and to notice that his stream of urine was getting small, and placed himsel under treatment. He was told that he had stricture, and treated during most of the succeeding two years for stricture—was finally pronounced cured, and for the next four years had no trouble of this kind at all. During most of this time he introduced a bougie himself, at first regularly as he had been directed, then at long intervals, and finally omitted it altogether.

About eighteen months ago he began to notice that his stream was again getting smaller, and sought advice. He was again treated for stricture, principally by the introduction of bougies, these being used on some two or three occasions very harshly as he thought. He tried two or three different practitioners and finally went into Hospital; here he obtained relief and went out, but in a few weeks after (some three months after the commencement of this last attack) he began to notice that he urinated more frequently than usual. This came on very gradually. His attention was first called to it by being obliged to get up in the night. It rapidly grew worse, so that in the course of a month he had to urinate every hour at least once, often two or three times, the urine coming away in drops in the intervals. And after a time he noticed a "slimy deposit" from it.

He was admitted into the Brooklyn City Hospital February 5, 1856; he had then been in the condition described above about a year. His general health was pretty good, though he thought he had been getting weaker lately. The urine was highly alkaline, and left a copious white viscid deposit. He stated that the day before admission he had applied to a distinguished surgeon in New York, who had passed a bougie into his bladder, and promised him relief.

There was no evidence of distention of the bladder, and his statement led to the conclusion that his urethra was not constricted, and it was not until some days after admission that an attempt was made to enter the bladder. It was subsequently ascertained that he was mistaken in supposing that the instrument entered the bladder, and also in the name of the surgeon. The urethra, when examined some days after, was found constricted at the bulbous portion; the stricture was impassable to the smallest instruments, though No. 8 would apparently enter it. He was placed upon: Ferri. chloridi gtt. x three times, and a wine-glassful of the decoct. uvæ ursi twice a day. During the remainder of February and throughout March, the patient's condition remained very much the same as when he was admitted into the Hospital. His appetite was good, slept well, and walked about the house and grounds wearing a urinal. The urine passed in twenty-four hours averaged about a pint and a half. It remained alkaline, though less so than at first, and on several examinations was neutral. The deposit remained the same in quantity and appearance, and was apparently entirely mucus. Very little progress was made in dilating the stricture, and each attempt to pass it was followed by more or less dysuria, lasting sometimes a day or

two. About the first of March, pareira brava was substituted for uvæ ursi, and he continued it in conjunction with Ferri chloridi during the month.

April 3d. He was placed upon copaiba, f℥ss twice a day, with opii gtt x, and spt. æth. nitrici f℥ss, omitting the former medicines. He began not to feel so well—would occasionally remain in bed all day—and in the course of a week or ten days was obliged to remain in bed altogether. He complained of nothing but weakness, and some pain about the perineum.

April 10th. To have f℥ij of gin in the twenty-four hours, and continue the copaiba mixture. He was now quite feeble, and grew weaker from day to day.

April 15th. Ordered ammon. carb. gr.ij every hour.

April 16th. Died. The quantity of urine passed during the forty-eight hours preceding death was very small, and during most of this time there was muttering delirium.

The specimen consists of the penis, bladder, ureters, and kidneys. The urethra laid open along its floor, is reddened and rough from within an inch of the meatus nearly to the bulb. Exactly at the junction of the bulbous and membranous portions is a stricture which scarcely admitted a small probe. Anteriorly to the stricture the mucous membrane is torn and formed into loops and bridles across the canal. The substance of the prostate gland is softer than normal, in it is a large cavity, which was filled with a fœtid purulent fluid, but the cavity having no communication with the bladder or urethra. The bladder is contracted (which was its condition at the time of the examination, post mortem). The walls very much thickened, being in some places one-quarter of an inch or more thick. The vesical mucous membrane is pale and soft. The cavity of the bladder was filled with a viscid ammoniacal fluid mixed with tenacious mucus. The left kidney is seven and a quarter inches in length, and three and a half inches in width; the right kidney seven and three quarter inches in length by four in width. (These dimensions are a little less than when the specimen was recent.) The left kidney was soft, and presented small purulent collections under its capsule, and also in the substance of the organ, almost all traces of the pyramids and cortical substance are destroyed, the pelvis is not enlarged in proportion to the rest of the organ. The ureter on the left side is irregularly dilated in some places being nearly as large as, and resembling, small intestine. Just before reaching the bladder, and in its course through its coats, the calibre of the ureter is small and

tortuous. The right kidney may be divided into two portions, the upper and smaller portion consisting of apparently healthy but condensed tissue, with irregular pyramidal and cortical structure. The lower and larger part consists of a number of sacs, irregular in shape and size, separated by firm, white, membranous partitions, and all communicating with the original pelvis of the organ, which latter is enormously distended, measuring four inches in length and three and a half in diameter. This pelvis, and the sacs communicating with it, were filled with clear and apparently healthy urine. No communication existed between the upper and lower divisions of this kidney. Each of these divisions has a separate ureter ; that from the upper part is of normal size and uniform calibre ; that from the lower is small and tortuous, its canal is obliterated from just below the distended pelvis down to within an inch of the bladder. Here it runs parallel with the other ureter, each having a separate opening into the bladder.

Of *cancerous diseases* four specimens were presented. The first, which was presented by *Dr. J. S. Sewall*, showed a number of *tumors*, supposed to be *cancerous*, in the mesentery and liver, while another at the pyloric orifice had ulcerated ; and there existed in the liver, which was adherent to it at this point, a large abscess.

Case.—J. M., aged 45, Ireland, 9 years in the United States. Dates his first note of ill health at Christmas, 1855. Symptoms have been, in general, those of a dyspeptic. Anorexia, emaciation, and constipation were the most prominent. Reports no stools save from active cathartics. Has not complained of pain, so far as his wife knows, at any time. For five weeks previous to his death, which occurred the 1st of May, has had constant vomiting of food, and that almost directly after its injection. Has never had vomiting of blood or stercoraceous matter, nor has he passed blood per anum. Has never had jaundice, nor lived in a southern clime.

Was seen but once, about 48 hours before death, when he was found much prostrated, with feeble pulse and cool skin. His flesh was shrunken and withered, and he was emaciated generally. Abdomen flat. Complained of vomiting, and want of sleep, with entire loss of appetite. From this time he gradually sank.

Autopsy about 36 hours after death ; rigor mortis well established, great emaciation, abdomen somewhat distended with gas. Air was noticed in the cellular membrane along the spine, opposite the umbilicus. Large patches of ecchymosis were found upon the intestines, along the spine, and scattered through the abdomen. At left

extremity of the stomach, and encroaching deeply upon and into the substance of the right lobe of the liver, was a large indurated mass, binding together at this point this viscus, the pancreas, mesentery, transverse colon and duodenum, and involving them all in a common disease. Scattered through the right lobe of the liver, adjacent to this mass, were very many small, whitish, indurated tumors. For a space of 2 or more square inches, this lobe was firmly adherent to the lateral abdominal walls. Projecting from the xyphoid cartilage internally, was another tumor of the size of a pullet's egg, of the same characteristics as those referred to, and scattered over the diaphragm on the left side, and imbedded in its substance, were very many smaller ones, some of which affected the cup-shape. Through the mesentery, also, these tumors were numerously scattered, and of various sizes. The lungs were healthy. The stomach was healthy, save for a few ecchymosed patches here and there scattered over its surface. Upon laying open the pyloric orifice, it was found to terminate very abruptly in a large, irregularly shaped abscess, capable of containing 4 or 5 ounces, abounding in a very fetid, dark, thickened fluid, and with most rough and ulcerous walls. Its situation was chiefly within the liver. The duodenum was lost in it, but the track of the small intestines could be traced, proceeding from it. Directly opposite the transverse colon it had ulcerated into it by a round opening of about 2 inches in diameter The intestines, removed from communication with the abscess, seemed healthy. The liver was not enlarged, but softer than natural.

The second, presented by *Dr. Finnell,* showed extensive cancerous disease of the stomach ; the material extended from the cardiac to the pyloric orifice. Seven months ago, she complained of pain about the stomach, and entered the hospital. A tumor was discovered in the region of the umbilicus ; a portion of it was attached to the abdominal wall, and appeared about to perforate it. For several months she vomited a black material and became emaciated and cachectic. At the autopsy there was also found a small fibrous tumor in the uterus, and one from the spinal column.

Dr. Clark remarked, that cancer of the stomach is not always accompanied by vomiting, and he (Dr. C.), has observed that when the pyloric orifice is the seat of the disease, vomiting takes place uniformly, and at regular intervals after eating.

Dr. Batchelder inquired if cancer at the pylorus does not increase the size of the stomach?

Dr. Clark replied that it did not, for the reason that gases collecting behind the seat of the disease were eructated, and do not, as in obstruction of the intestines, dilate the viscus.

The third was a cancer of the œsophagus, presented by *Dr. Ayres*, of Brooklyn, which had perforated the trachea.

Case of Carcinoma of the Œsophagus, perforating the Trachea.

B., æt. 63, had been a very active and temperate man—without hereditary disease that he remembers, and enjoying good health. About 7 or 8 months previous to death, he began to complain of uneasiness and a sense of obstruction when eating, referred to the sternal region. This became so urgent that he would rise suddenly from the table, striking the chest with his hand, and thus attempt to facilitate the passage of food along the œsophagus, expressing the fear that "something was wrong there." Paroxysms of this kind became gradually more frequent and violent, and equally excited by solids or fluids—both being now often regurgitated. After four months had elapsed, he began to have a dry, croupal cough, partial aphonia, pain shooting upwards towards the larynx and downwards towards the chest. At this time (10th of March,) he consulted Dr. Cullen, who examined him carefully, and reports no disease of lungs, respiratory murmur normal throughout the chest, and no dulness, nor much emaciation, very little constitutional disturbance, regularity of functions and good sleep at night.

Diagnosis.—Pressure upon the œsophagus from some organic disease, either abscess, cancer, or both. Prognosis unfavorable.

Leeches were ordered to the neck, calomel and opium administered until slight ptyalism supervened, and a blister applied over the sternum. Under this treatment the pains mitigated, cough became moist and less troublesome, but never disappeared, and the dysphagia continued. Was able to be out, and the weather being changeable, he imprudently exposed himself.

April 30th. Difficulty of swallowing and cough greatly aggravated. Considerable fever and thirst, with bounding pulse over 100 per minute.

May 2d. Suddenly in the night began to expectorate yellowish, fœtid pus, without blood, but with large quantities of mucus, which continued until the 5th, when he died.

During this last interval, a loud mucous râle was perceptible over the upper portion of the right lung, and any attempt at swallowing the blandest fluid was followed by a violent paroxysm of cough and

vomiting. Mind clear, extremities became gradually cold, pulse feeble, and death took place by asthenia.

Post mortem appearances.—Surface of body slightly jaundiced, and general emaciation very decided. On the left side of the trachea and overlying the inferior portion of the left thyroid body (which was thereby atrophied), was found a tumor as large as a black walnut, somewhat flattened—firmly connected to surrounding tissues—hard, grating under section, emitting, on scraping, a milky juice, and having all the characteristics of true carcinoma—probably an infiltrated lymphatic. Heart larger than natural, cavities dilated, walls thin, and muscular structure, particularly of right side, exhibits marked fatty degeneration.

Left lung healthy and non-adherent. Upper third of right lung firmly connected to costal pleura by old adhesions, and rising high into the cervical region. The apex of this lung was found likewise firmly adherent to the right side of the œsophagus and trachea, and the neighboring cellular tissue firmly condensed, formed a hard mass. This mass bears evident marks of inflammatory action ; of subsequent degeneration and softening, forming an abscess with thick, firm walls, which finally ulcerated its way into the œsophagus and trachea. The disease was found to be located upon the anterior and right side of the former organ, immediately behind the point where the trachea bifurcates into right and left bronchi. The bronchial glands found in this locality were infiltrated with cancerous matter in a state of degeneration. The hard, unyielding wall of the spinal column behind, the ribs and sternum in front, and scarcely less yielding adhesions above and below, will readily account for the increasing pressure upon the œsophagus by inflammatory swelling, and the temporary relief of treatment.

A similar explanation of the partial aphonia and laryngeal disturbance, will be found in the pressure upon the recurrent laryngeal branch of the eighth pair of nerves.

The fourth was a case of cancer of the testicle, presented by *Dr. Willard Parker*, which he had removed from a gentleman aged 50 years.

Dr. Cock presented a specimen of rheumatic pericarditis ; a written history was given but withdrawn.

Dr. Finnell presented the stomach of an habitual drunkard, who had gone to bed intoxicated and was found dead in his bed in the morning. The stomach presented the appearances usual in such cases.

Dr. J. C. Hutchinson presented a specimen of the kidney of a

man who had died of phthisis. The kidney contained a phosphatic calculus about as large as a pea, and was the seat of an abscess which contained thirty-two drachms of pus.

Dr. H. likewise exhibited, for *Dr. Boyd* of Brooklyn, a fœtus and placenta expelled at full term, whose development had apparently been arrested at the sixth month. The mother had quickened at the fourth month, and shortly after had an attack of jaundice. The doctor inquired if the jaundice was the probable cause of death.

Dr. Clark said he thought the placenta had undergone fatty degeneration, but he did not see how the jaundice of the mother could have been the cause of the death of the fœtus.

Dr. Willard Parker showed a leg which he had that day removed from a man aged 35 years. He was of good constitution, and 15 years ago had sprained his left ankle. Five years after the accident, he consulted Dr. Parker, who directed the usual remedies for inflammation, and enjoined repose. In January last, he had inflammation in the joint, and three months ago the doctor was called in to amputate. He advised delay, and found no ulcer, but some pus over the internal malleolus, which he discharged. Within 10 days past he has had a return of the violent symptoms, since which time his suffering has been intense, nearly equalling that of tetanus. On examination of the limb after amputation, the lower end of the tibia was found to contain an abscess, such as are particularly described by Brodie. No pain had been produced by pressure of the foot against the leg. Dr. Parker had seen a similar abscess in the femur of a woman, some years ago.

Dr. Hutchinson presented a portion of a liver which had undergone fatty degeneration, with the following history :—

Thomas G., aged 40, born in Ireland, and a cabinet maker by occupation, was admitted into the Brooklyn City Hospital for treatment, March 5th, 1856, about 4 P. M.

He has been very intemperate for the last 20 years, and for two years past has taken from a pint to a quart of bad liquor daily. Had a severe attack of delirium tremens about 18 months ago, and some slight attacks occasionally since. In relation to his present attack, we could only learn that he had been confined to his house about three weeks, and had been delirious for the last three days. There was no one with him from whom any reliable history of his illness could be obtained.

When brought to the hospital he was delirious, and greatly prostrated ; so much so, that his pulse was scarcely perceptible. His

skin and conjunctivæ were intensely jaundiced, the abdomen distended with fluid, and the whole surface of the body œdematous, especially the lower extremities. There was tenderness, on pressure, over the entire surface of the abdomen, but it was more distinctly marked over the right hypochondrium. The superficial veins of the abdomen were considerably distended. Two ounces of brandy were at once given, and milk punch allowed freely during the night.

6th. Delirium continues, but has not the character of *mania a potu*. Slept none during the night, pulse 100 and rather stronger, bowels moved slightly this morning, discharge clay-colored, passed also three ounces of dark, thick urine. He was ordered acid nitro muriat. gtts v *ter in die*, a lotion of the diluted acid over the hepatic region, 10 grs. Dover's powders every 4 hours. Brandy *pro re nata*.

7th. After taking Dover's powder at 9 o'clock, he fell asleep, and did not wake for about 16 hours. Delirium continues, pulse 95, feeble ; a very small quantity of urine is discharged, containing a large quantity of bile, also purpurine and urate of ammonia. Directed pulv. scillæ grs. ij, digitalis grs. ij every 8 hours, Dover's powder at night, and milk punch freely.

8th. Slept pretty well last night. No delirium ; passed about one ounce of urine in last 24 hours ; catheter introduced and eight ounces of dark, turbid urine obtained. Continue treatment.

10th. Has been delirious since yesterday afternoon ; insomnia ; pulse 96, more feeble ; twenty ounces of urine by catheter in last 48 hours. Milk punch increased.

11th. Insomnia and delirium continue. Jaundice increasing, paralysis of motion in lower extremities, prostration increasing, six ounces of urine by catheter in last 24 hours, of the same character as before, stimulants freely. He continued to sink gradually, and died early in the morning of the 12th.

Autopsy, 30 hours post mortem. Liver one-third larger than normal, of greenish brown hue generally ; the central portions of the lobules were much darker than the circumference, giving the organ the appearance called "nutmeg liver." The cells were filled with fat ; some contained bile, and detached and isolated particles of yellow coloring matter here and there. Pancreas much harder than natural.

Kidneys examined microscopically by Dr. Isaacs, with the following results :—"The tubes of the kidney appear enlarged in some places, contracted in others, and filled with broken down or disintegrated epithelium. Some of them have their epithelial cells filled with yellow coloring matter, which, from its appearance and chemi-

cal reaction, I take to be bile. A few of the malpighian bodies were tinged with this yellow color ; some of these malpighian bodies were enlarged, some contracted. The fibrous matrix was thickened, the meshes being larger than usual—the intervening fibrous tissue thicker than in the natural state."

CHRONICLE OF MEDICAL PROGRESS.

Female Physicians.—Messrs. Editors : I have often wished, when reading the gross perversions of the truth which have been industriously brought before the public by interested persons, that the actual facts in regard to this subject might be so presented as to disabuse those who have been induced to credit the assertions so frequently and boldly made.

The proposition that women, as a sex, cannot practice medicine—that their weak physical organization renders them unfit for such duties and exposures—that their *physiological condition, during a portion of every month,* disqualifies them for such grave responsibilities—is too nearly self-evident to require argument. I therefore limit myself to a statement of the facts as regards midwifery alone, for the practice of which it has been especially claimed that they are competent.

It is asserted, in the first place, by the advocates of this claim, that were the habits of society less artificial, the process of child-bearing would be as easy and safe as in wild animals, calling for no intervention of science and skill. In the second place, they affirm, that in Europe the practice of midwifery is almost exclusively in the hands of females. Lastly, and as their weightiest argument, they declare that physicians are licentious, and that morality and delicacy require that they should be superseded.

But as respects savage nations, as well as in regard to domestic animals, we have abundant proof that no such immunity from pain and danger exists. On this point I beg leave to quote a small portion of the testimony lately collected by a distinguished English author (Roberton), who says : " A variety of recent valuable evidence (furnished chiefly in casual hints and allusions, the most unexceptionable kind of evidence) leads to a very different conclusion. So far is parturition from being *easy, expeditious and safe* in every instance among barbarians, we have reason for thinking that *difficult* labors are as numerous with them as with us. In exemption from the usual causes of impeded labor, requiring the aid of science for the safe de-

livery of a patient, there is either no difference at all, or, if there be, it will be found in the greater exemption, from such causes, of women in a state of civilization. Although much minute and specific information on this point is not to be expected, I have collected a number of remarks more or less bearing upon it. Long mentions, incidentally, the fact of a young woman of the Rat Nation being in labor a day and a night without uttering a groan, the force of example acting so powerfully on her pride as not to allow her to express the pain she felt. A similar fact is stated in the voyage of Clarke and Lewis up the Missouri. Hearne, in his Journal of an Expedition to the Northern Ocean, casually says: "Here we were detained two days, owing to one of our women being taken in labor. She was not delivered till she had suffered for nearly fifty-two hours." MacKenzie incidentally notices that on a particular time the Indian hunter attached to the party returned, after a temporary absence, accompanied by his wife, leaving behind his mother-in-law, in a helpless state, with three children, *and in labor with a fourth.* It came out that she had been left "in a state of great danger." Capt. Keating states respecting the Potawatomies, a tribe with which he had associated for some time, and concerning whose manners his party gained much curious information, that labor was seldom fatal, but that many instances had occurred in which the child was so long *in being born*, that it was putrid when expelled. The same writer informs us that in answer to inquiries concerning the usual duration of labor in a tribe of Indians called Sauks, he was told that the pains of labor continued, in some instances, as long as four days. Among the Dacotahs, the same party learned that parturition, in some cases, lasted from two to four days. We have another incidental notice of labor in an Indian in Franklin's Overland Journal. A Chippawaian woman fell in labor, in the woods, of her first child; and, on the third day after, died. In Krantz's account of the manners of the Greenlanders there occurs an allusion to parturition. Among others, those, it appears, are to find entrance to heaven who have died in child-birth. Messrs. Ellis and Bourne, who resided a great many years as missionaries in the South Sea Islands, have furnished me with valuable information concerning parturition as it occurs in those islands. Mr. Ellis says: "Protracted and dangerous labors have generally been occasioned by mal-presentations." Mr. Bourne says: "The missionaries have saved many in difficult labors, who would otherwise have died." Long, the able historian of Jamaica, writes, in allusion to parturition among the slaves, that many children are annually destroyed, as well as their mothers, in the hands of the

negro midwives. A writer in the Encyclopædia Britannica has shown that for a long period midwifery has been practised in China by a set of men destined to the purpose by order of government. These men are called in whenever a woman has been above a certain number of hours in labor, and employ a mechanical contrivance for completing the delivery. The Chinese government, it is said, was led to make this provision in consequence of a representation that annually many women died undelivered, and that in a majority of cases the cause of obstruction might have been removed by simple mechanical expedients.

It is needless to add further evidence. We have seen that rude nations acknowledge the necessity for more or less assistance in the act of accouchement. This is further proved by the rude expedients resorted to by such nations to accomplish delivery. The circular fillet around the abdomen, tightened with great force by a dozen assistants, with the view of *forcing out the child;* the suspension of the woman by the heels, with the hope of altering the position of the infant, as practised among the Indians and negroes, are examples of these.

As civilization advances, we find a far higher regard for all which concerns the welfare and safety of woman. It was this exalted regard which at last demanded the transfer of the responsibilities of the lying-in chamber from the midwife to the educated accoucheur. The *results* of this change were a diminution of the mortality incident to child-birth, in the course of half a century, *to half its former amount.* The *reasons* for it have been already partially alluded to; but one other of them is worth mentioning, as it furnishes a complete contradiction to the theories of the would-be reformers, who assert that women under such circumstances need more sympathy and gentleness than they receive from physicians of the other sex. This reason was, the *notorious harshness of the midwives.* With all the desire to display their importance and their skill which belongs to half-cultivated minds, they sacrificed the comfort and even the safety of their patient to the endeavor to make a brilliant impression of their own ability. This is well known as regards those of Scotland and England at the present day. In regard to those of France, the writer was informed at Paris, that one reason why the midwives were not employed (except as a measure of economy by the poorer classes,) was their extreme roughness, not to say cruelty, towards their patients. The able author I have already cited says, of those of England: "It is scarcely credible to what an extent they carry their interference in every stage of labor. It is no part of their system to trust to the unaided powers

of nature." Those who have had much opportunity to observe the harshness and neglect which many patients endure from their nurses, will be quite prepared to receive these statements as unexaggerated.

But we are told, in the second place, that in Europe, and especially in France and Germany, the practice of midwifery is almost the exclusive province of females. I submit the following facts, obtained by personal observation. The government does all in its power to render the "sage femmes" or midwives, as far as they can be, competent, by providing for them a system of instruction under the direction of the faculty of medicine, and by requiring them to pass two distinct examinations before they are permitted to practise. But, even after such qualification (far superior to anything dreamed of in this country,) they have been found so unskilful that they are forbidden, by law, to continue in charge of a difficult case, or to apply instruments, without calling in a physician. Even the eminent midwives who have the superintendence of the Maternité and the other large lying-in Hospitals at Paris, with their experience of thousands of cases, do not have the responsibility of the mangement of difficult labors. The physician who has charge of the hospital, or if he cannot be found, his substitute, is sent for. If neither of them can be found, notice is left at their houses ; but, if delay be inadmissible, the house physician, not the chief midwife, takes charge of the case. Educated as we have seen, the midwives enter upon the discharge of the duties of practice, but not to be welcomed and patronized by the delicate and refined portion of their sex. In Paris, some find employment among the lower classes ; others sustain themselves by keeping houses for accouchement, of which the signs may be noticed in all the less respectable quarters of the city. These houses afford a cheap resource for the wives of such small tradesmen as find their apartments at home too limited for their comfort during confinement, as well as for a large class who desire secresy. Here a young girl, not a wife, becomes a mother ; and the widow hides the consequences of her "indiscretion." Hence, perhaps, the child is sent to the basket of the Foundling Hospital, very probably to fall a victim to its want of maternal care ; and the mother, having paid her forty francs for the accouchement and the nine days allotted her, returns to her position in society. In the rural districts, as in Great Britain, some midwives obtain a partial support in the small hamlets which are too far from larger places to allow of the services of a physician being readily procured for such occasions.

Many of equivocal reputation occupy the ranks of the midwives,

who, having pursued an improvident career as grisettes, find themselves, at middle age, with no resource so convenient as the vocation of the sage femme. That such persons should be unscrupulous in practising the illegitimate arts of their calling, as well as its honorable duties, need surprise no one. In Great Britain the education of the midwives is less methodical; but they are similarly sustained, by the lower classes only, not as a matter of choice, but of economy. The competence of some may be judged of from a case lately brought before the London courts, where a midwife (who had been a pupil at a London lying-in hospital,) after the patient had been delivered, dragged the womb itself out of the body, and then, supposing that this organ was something which ought to be removed, *tore it away from the woman*, causing her speedy death.

If, then, midwives have still a recognized existence in European countries, they do not owe it to any superior delicacy or higher morality; but, as I have shown, to circumstances inseparable from a poor or sparsely scattered population. These circumstances do not exist in even the most thinly-settled portions of New England, and the more valuable services of the physician have been within the reach of all, no matter how poor or how distant.

But the public have been told, *not by ladies*, but by men whose grossly indelicate works do not go to prove *them* the fittest judges, that the confidence of the sex is abused by physicians, and that to employ them is an offence against the higher sentiment of woman's nature. Every pure-minded lady denies the libel, as regards her trusted medical adviser and the profession at large, as well as herself. Incapable of the indelicacy of thinking and acting as if, in any matters concerning the health of herself and her children, there could be any question of sex, she describes to her physician, without hesitation or reserve, the physiological phenomena in regard to which she solicits his advice; knowing that he receives her confidence in the same spirit. There may be exceptions in morality among physicians; but where can an equal number be found, in any class of society, whose conduct is *as irreproachable*. No objection is made to the admission of clergymen to intimate and confidential relations with the other sex, although these relations take place under circumstances infinitely more likely to lead into temptation, and though the community has witnessed more instances of exposure of misconduct on the part of the clerical than of the medical profession.

I trust I have fully proved, that so far from being a benefit to society, so far from enhancing the purity and delicacy of female charac-

ter, it would be a misfortune to both that any retrograde step should be taken, as regards the qualifications and character of the medical attendant. The duties of the accoucheur are not limited to the service rendered on a single occasion. He must see that mother and child are doing well, and take every precaution to avert any germ of future disease. Is he, with his intimate knowledge of the whole constitution, his skill acquired by years of thought and culture, any too competent for these important responsibilities?

Some wise and worthy men have been anxious that the experiment should be tried; some clergymen have been persuaded to give an opinion on a question of which they are most unqualified judges; but the public have given but a chilling support to the languishing experiments which they have been forced to witness in the sham education of females. Nor will the occurrence, within a few weeks of each other, and within a short distance of Boston, of two cases, where the gross ignorance of two of the professedly educated females, cost the life of one patient, and made another the subject of an infirmity which renders life a burden, be likely to exalt the plan in public favor. But like its cöeval Bloomerism, the scheme has already received its deserts. It contains within itself the elements of failure; for as one of its advocates remarked, "the girls don't like to dissect." They did not seem to like, either, to devote more than three months to a course of medical education.

I have offered these too long remarks, Messrs. Editors, although you have so ably disposed of part of the question in your number of the 1st November last, in the hope that the statement of facts may enable some in the profession to refute the assertions which have been so freely made, and to give a satisfactory answer to the appeal which is now and then made to them for the truth in regard to the merits of this question.—*Boston Medical and Surgical Journal.*

Poisoning by Aconite Root.—Dr. F. Headland lately (March 15) read a paper on this subject before the Medical Society of London. After glancing at the history of the plant, and its use as a poison in ancient times, he referred to a number of statements made by authors in the Middle Ages, which showed that the poisonous properties of the plant was well understood by them. Poisonings by aconite, in modern times, were usually accidental. A number of cases in which the leaves and shoots had been eaten with fatal effects, were first

briefly remarked upon, and then the cases of poisoning by aconite root, which had been recorded in this country during the last few years, were divided under two heads—(1.) Cases of an over-dose of some preparations given as medicine. This was generally the tincture. (2.) Cases in which the root had been eaten by mistake as an article of diet.

1. Four cases of poisoning by the tincture have been recorded during the last five years. Others are said to have happened. Of these four persons, two died from taking one fluid drachm of Fleming's tincture; one died from the effects of twenty-five minims of the tincture of the London Pharmacopœia; a fourth barely escaped from a dose of fifteen minims of the same. Two of these cases were attributable to carelessness in dispensers; one, to ignorance of the power of the preparation. The author made these recommendations with the hope of obviating such accidents for the future: Firstly, to carry out the plan of the Dublin College, requiring druggists to keep all dangerous preparations in square or angular bottles, and the others in round bottles. Secondly, that the tincture of aconite, if used, should be made of one uniform strength (as far as possible). At least three different tinctures are in use in this country. Or, thirdly, that it would be still better to discard this tincture altogether, as an uncertain preparation, substituting for it a solution of aconitina of one fixed strength, containing $\frac{1}{60}$th of a grain to each drop.

2. In nearly all the cases in which aconite root had been eaten as food, the singular error has been made of mistaking it for the root of the common horseradish, and so scraping and eating it with roast beef. The author read accounts of four cases of this fatal error, which have occurred of late years, the last of them being the recent tragedy at Dingwall, in Scotland, when three gentlemen lost their lives. To show that such mistakes could not be committed by careful persons, specimens and drawings of horseradish and aconite root were exhibited and compared. The acid but not pungent taste of the aconite parings, and the pinkish color which they assume when exposed to the air, were among the points noticed. The author, having noticed a singular case of poisoned coffee, proceeded to state that there were two ways in which a case of aconite poisoning could be recognized: (1.) By the symptoms, which are very characteristic. (2.) By obtaining some of the poisonous principle, by a chemical process, from the contents of the stomach and matters vomited, and then trying its action upon small animals, or on the tongue, etc. There are no distinctive chemical tests for it, but $\frac{1}{300}$th of a grain of the alkaloid

(aconitina) would kill a mouse, and $\frac{1}{1000}$th placed on the tip of the tongue would cause tingling and numbness. With regard to the treatment of such cases of poisoning, Dr. Headland recommended the immediate and free adminstration of animal charcoal, mixed with water. This is to be followed by a zinc emetic, then by brandy and ammonia The charcoal has the power of retaining and separating the poisonous alkaloid, and if we have rendered help in time, the patient may perhaps be saved.—*Med. Times and Gaz.*, April 5, 1856.

On the Influence of Sea Life and Warm Countries on the Progress of of Pulmonary Phthisis. By JULES ROCHARD, Second Surgeon-in-Chief of the Navy at the port of Brest.

(Continued. See page 340, *Vol. V.)*

In that which pertains to climate, it is necessary to distinguish between those regions which are near the equator and those which are more distant. And yet more must be done; we must come down to the examination of particular localities. This is the only way of giving to such investigations a practical utility, for with a particular case before him, what the physician wants is the exact indication of the places which he ought to forbid to his patient, and of those in which he could permit or advise his patient to live. In that which concerns the disease, it is necessary, as all authors have remarked, to take into grave consideration the stage to which it has arrived.

I will commence, then, by dividing warm climates into two zones. The first lying between the tropics, the second, necessarily double, bounded in the northern hemisphere by the isothermal line, numbered 15 on the chart arranged by M. Boudin *(carte physique du globe terrestre, Paris*, 1854*)*, and which corresponds to about the forty-fifth degree of latitude for the old continent, and to the forty-first degree of latitude for the new; bounded in the southern hemi phere by the line numbered 15 in the same chart, which corresponds to about the thirty-eighth degree of latitude. These boundaries do not correspond with the division of climates adopted in treatises on hygiene, but I have found them too important in respect to phthisis to give them up. I hope to prove, in fact, that in the torrid zone pulmonary tubercularization progresses with more rapidity than in Europe, and that emigration is fatal to tuberculous persons who go there to live.

This opinion is that of the immense majority of physicians-in-chief of our colonies. It is that of M. Cornuel, first physician in-chief at Guadaloupe (now retired); of M. Dutroulan, first physician-in-chief at Martinique; of M. Laure, second physician-in-chief at Cayenne, who shares in this respect the opinion of Segond, one of his predecessors. It has been asserted of Senegal by MM. Raoul and Foussagrives, medical practitioners; of the isle of Bourbon, by M. Lepetit, second physician-in-chief ; of India, by M. Collas, chief surgeon. It is shared by the many surgeons who have been able to give proofs of the frightful ravages which phthisis makes in our possessions in Oceanica. I have found it expressed, in connection with the death of each phthisical person, in most of the reports which I have consulted. For years the physicians of our colonies have protested against sending there persons who have become phthisical in France. On the other hand, they send here the soldiers and sailors attacked in those latitudes. Finally, in a recent case the inspector-general has just given the sanction of his great experience to this procedure.

Hitherto the attempt has been made to solve the problem which occupies us, by establishing for each locality the frequency of the occurrence of phthisis in its population. This is not, in my opinion, a very rational method. The race, the kind of life, a multitude of causes independent of climate may, in fact, cause the proportion of phthisical persons to vary, without our being able to draw any conclusion as to Europeans, so that they may know how to surround themselves with all the precautions which their situation requires. The problem is to find out what is the effect on phthisical persons transported from one climate to another. To solve it, it would be necessary to send to each locality, patients whose condition was previously ascertained, and to follow them in their new residence. But, that the experiment might be conclusive, it would be necessary to make it on a grand scale, and this is impracticable. We can, it seems to me, arrive at the same end in another way. It is sufficient to take, in the same country, a certain number of men of the same age, subject to the same discipline, of the same occupations, leading a life, in short, identical; to send one-half to warm climates, to keep the other in France, and to see, at the end of a certain number of years, in which division phthisis has had the most victims among those who carried its germ. Now, this experiment was made long ago; it is continued every day, and on sufficiently large bases to give all desirable certainty. Our colonies are served by particular regi-

ments, which compose the infantry corps of the navy, and whose number is about to be increased from three, which it has hitherto been, to four. This body is recruited from the same sources as the infantry of the line; it is subject to the same laws; the soldier in it is placed in identically the same conditions of food, lodging, pay, and service. The only difference there is between them, is that of climate. We can then appreciate its influence in all its purity, by taking the army for comparison. Now, as we shall see, phthisis makes much greater ravages in the naval infantry. It has, it is true, a smaller proportion in the number of deaths in the colonies; but though the mortalit is there much greater, and notwithstanding the ravages made by endemic affections, which snatch from phthisis some of its victims, and tend to lessen its proportion,—of a given number of soldiers of the naval infantry and of the land army, more die of phthisis in the first corps than in the second.

An excellent thesis by M. Godineau, surgeon of the second class in the navy (Theses de Montpellier an. 1844, No. 3), contains a table showing for Martinique, Guadaloupe, and their dependencies, the actual number and the mortality of the troops, and the proportion of the mortality to the whole number, during the period of the twenty-four years from 1819 to 1842. This table shows that the annual mortality is 11 in 100 for Martinique, and 10.5 in 100 for Guadaloupe.

If, now, we wish to know what becomes of a given number of soldiers of the same regiments during the four years which they pass in the Antilles, before returning to France, the same table will show us. The result of the numbers furnished by M. Sonty, and the calculations made by M. Godineau, prove that of the first four thousand men who served in the second regiment of the navy, 1652 died, or 40 in 100.

What is the proportion for phthisis in this mortality? It is 1 in 30.42; and as the annual mortality is 11 in 100, that from phthisis is 0.36 in 100, or 1 out of every 277 men. If we compare these results, obtained in 26 years from 100,000 soldiers, with those given by Benoiston de Châteauneuf for the army, we have the following proportions :—

	Army.	Naval Infantry.
Annual mortality, - -	2.25 to 100	11 to 100
Proportion of deaths from phthisis, to the whole number of deaths,	1:13.6 in 100	1:30.42 in 100
Do to the whole number of troops,	1 in 578	1 in 277
Do. in 100 men, - - -	0.16 in 100	0.36 in 100
Do. in 100,000 men, - -	16 a year.	36 a year.

The mortality in the naval infantry caused by phthisis is then a little more than double that of the army.

These investigations stop in 1842. I have endeavored to procure more recent documents, and those which I have obtained enable me to construct a table for our colonies in the Antilles and at Cayenne, the result of which is, that during the year 1853 (taking as the representative of the variable number of the garrison in our colonies, the mean of the 24 years in which the researches of M. Godineau were made), the proportion of deaths from phthisis was the following:—

1853,	Guadaloupe,	1927 soldiers,	11 died of phthisis,	1 in	175.
"	Martinique,	2027 "	17 "	1 "	119.
"	Cayenne,	828 "	about 5 "	1 "	163.

Admitting that the number of the garrison has been a little greater than we have supposed, the mortality from phthisis is no less sensibly greater than from 1819 to 1842, and especially greater than in the army.

All the phthisical soldiers, I have said, do not die in the hospitals of our colonies; it has long been the custom to send them back to France. Well, out of 2633 sick men returned to France at different periods from our colonies, 221 were laboring under phthisis pulmonalis. The proportion of phthisical patients to the whole number of men sent back on invalid discharges, is, then, 1 to 11.91—a proportion much greater than that which we have found it to be to the deaths, and which fully confirms what has been advanced, namely, that for many years it has been the custom in our colonies to send those who are phthisical back to France; which also tends to lessen the proportion of their deaths in the hospitals from which they come.

Hitherto our inquiries have been confined to the garrisons at the Antilles and Cayenne, and I have placed them in the front rank because they are the largest; but if we cross the Pacific ocean and go to Tahiti, we there find a proportion still very considerable. Those boasted islands are, perhaps, the portion of the globe in which it most abounds. In the course of a long station at the Society Islands, Doctor Erhel, surgeon major of the *Loire*, made from the registers of the hospital at Papeete, an abstract of the admissions and of the deaths in the garrison during the period of four years from the first of January, 1845, to the first of January, 1849. This abstract gave him 2207 patients, 30 of whom were phthisical—and 123 deaths, of which 27 were from phthisis. There were, then, during this time, in the garrison, one phthisical to every 73.33

patients, and one death from it in every 4.55—an enormous proportion, which we have not before reached.

These results confirm those which were obtained for the English colonies by A. McTulloch, and published by M. Genest, Gaz. Med. de Paris, 1843, p. 578.—*Gaz. Hebdom., May* 23.

(To be Continued.)

Carbonic Acid as a means of artificially producing Premature Labor.

By M. SCANZONI, Professor to the Faculty of Würzburg.

Two years since M. Scanzoni proposed to provoke premature labor artificially by exciting the breasts by means of cupping glasses, and by reflex action to produce contractions of the muscular fibres of the uterus. This process, made use of on several occasions, often promptly induced labor, at other times it succeeded better as an adjuvant, while in many cases its effect was incomplete, or failed almost entirely. The application of the glasses frequently produced excoriation of the mamellæ, inflammation, abscesses, and more or less severe pain. Generally, the result of the mammary excitation was particularly evident, when the irritation of the nerves of the mamellæ was accompanied with local excitation of the womb, and when besides the cups the uterine douche, the colpeurynta of Brown, the tampon, &c., were used. Desirous of finding a certain means of provoking uterine contractions without inconvenience to the mother, and without danger to the infant, and persuaded that artificial premature labor is one of the most useful and valuable resources of obstetrics, the professor of Würzburg continued his researches, and in the interesting practice which the maternity of Würzburg furnished, occasion soon offered upon which to experiment. Taking the observation of M. Brown-Séquard as a starting point, which shows that carbonic acid provokes the contractions of the muscles of organic life; that the genital organs for a long time exposed to the action of this acid become the seat of very severe congestion ; and that it is even a sure means of curing amenorrhœa, M. Scanzoni resolved to employ this acid to arouse the contractile power of the uterus, and to excite it so as to bring about labor.

The apparatus employed was as follows :—A flask holding about a quart, hermetically sealed, with a stopper having two openings, by one of which a tube penetrated to the bottom of the flask, to the other orifice was fitted a horn pipe which connected with a caout-

chouc tube about a foot long, ending in a canula of an ordinary injecting syringe. Bicarbonate of soda, and then some acetic acid is introduced by the first tube, a conical glass speculum is placed in the vagina. The caoutchouc tube inserted in a cork is introduced into the speculum, which it exactly fits. The carbonic acid is increased or diminished at will by the addition or not of acetic acid.

The following is the report of the case in which it was first employed :—

D. S——, 26 years old, primapara, menstruated for the last time May 26, 1855 ; entered the Maternité of Würzburg Jan. 29, 1856. Pelvis low and narrow. The antero-posterior diameter, ordinarily from 4 to 4½ inches, is only 3¼ to 3½ inches. The vaginal portion of the neck is from five to six lines in length, and the external orifice firmly closed. The head of the fœtus was felt above the anterior portion of the vaginal arch, the beatings of the heart were heard to the left, and the extremities of the fœtus were felt in the right and high up, near to the bottom of the womb. The mother thought she was in the thirty-second or thirty-fourth week of gestation, and the examination of the genital organs confirmed this opinion. The narrowness of the pelvis preventing natural labor from taking place, and furnishing the indication for the induction of premature labor, M. Scanzoni resolved to try carbonic acid.

Feb. 2. At eight o'clock in the evening, the apparatus was applied for twenty minutes for the first time, without provoking any notable modifications.

Feb. 3. At eight A. M., application for twenty minutes, and at eight P. M. for half an hour. The mother felt while the gas penetrated into the vagina a disagreeable sensation of painful prickings, and during the day darting pains about the umbilicus. Evening—the vaginal portion of the neck was slightly softened. After a good and tranquil night the pains about the umbilicus recurred.

Feb. 4. The apparatus was used half an hour morning and night. The same pricking sensations during the application. The neck became dilated during the day so as to permit the finger to feel the inferior segment of the membranes. During the night, severe and darting pains in the groins and back ; towards evening the hand placed upon the abdomen followed the evident contractions of the uterus, which, to tell the truth, soon after ceased.

Feb. 5. In the morning another application for half an hour, followed by the ordinary pricking sensations. The orifice was of the size of a two franc piece, yielded easily, and was readily dilated by

the finger. The vaginal secretion is very much increased. In the afternoon the painful contractions of the uterus appeared, which increased in intensity by degrees. At half past six in the evening the membranes broke, and an hour after a living child was expelled, which weighed 1350 grammes. During delivery a slight hœmorrhage appeared, which necessitated the removal of the placenta quarter of an hour after the birth of the child. The sequelæ of labor were not at all troublesome.

Reflections.—With the exception of the vaginal prickings, which seemed to continue only during the application of the current of gas, the employment of carbonic acid is followed by no serious inconveniences, and acts with sufficient energy, since its application during $3\frac{3}{4}$ hours was sufficient to provoke the expulsion of the fœtus. Unfortunately there is but one case, and it may be that this process may have some unpleasant results in nervous women, and cause uterine spasms rather than normal contractions. The vagina may become irritated, and it is not clearly proved that the increased vaginal secretion was not caused by a commencement of vaginitis. To decide upon the value of this method, the author himself calls for further experiments, and it is desirable that the demand of the distinguished physician of Würzburg should meet with some replies.—*Weiner Medicinische Wochenschrift.*

Hæmatology. By JULES BECLARD.

M. Parchappe reported to the Academy of Medicine, at the sessions of the 29th of April, and the 20th of May, the results of a series of investigations, in which he particularly proposed to show the imperfections of the method usually pursued in analyzing blood. M. Parchappe calls for the introduction of a more exact method in the new investigations, which shall hereafter be made on the relative proportions of the principles composing the blood. He insists, especially, on the necessity of taking, as a basis of the quantitative analysis, the determination of the *real* quantity of the two constituent parts of the blood, the globules and the plasma; and to proportion the materials of the blood not to the whole mass of this fluid, but to that of the two constituent parts of the blood to which these materials actually pertain. According to him, the methods and the procedures now in use make no account of this essential basis, and it is to this imperfection that we must refer the want of exactness, and the errors

which vitiate the analyses and sensibly diminish their comparative value. After the critical portion of his work, M. Parchappe gives the result of the analyses of the blood of man and of woman—analyses in which he has endeavored to suppress, as much as possible, these causes of error; and he closes by some interesting observations on the phenomena of the coagulation of blood.

We are entirely of the opinion of M. Parchappe, as to the objections which he makes to the modes of analyzing blood. These objections have been a long time known to all those who have made analyses of blood; and the author of the methods, to which he makes especial allusion, has never concealed them. In the analytical process of M. Dumas, in fact, the water lost by the clot in drying on the stove, is supposed to belong to the serum which infiltrates the clot; and they reckon from this loss of water the proportion of the solid parts of the serum which it contains (by drying a certain quantity of serum separately). Now, as it is certain that a portion of the water belongs to the globules, it follows that in the results the figure for the organic materials of the blood and the figure for the globules are not rigorously exact

For a long time, chemists have endeavored to do away with this cause of error, the importance of which it was not necessary to exaggerate; for it is circumscribed, as we shall see, within narrower limits than M. Parchappe seems to think.

The method of M. Dumas, which has served as the basis to the investigations of MM. Andral and Gavarrét to those of MM. Becquerel and Rodier, and those of many other physiologists and chemists, was first modified by M. Scherer. In this method, as indeed in that of M. Dumas, the analysis of blood consists of two operations; one, the analysis of the serum, the other, the analysis of the blood in the totality of its elements.

By the method of M. Scherer, the albumen is directly estimated (by precipitation by means of heat and acetic acid), and separated consequently from the other organic materials in solution in the serum, which they can then estimate directly, also, by evaporation. The fibrine is obtained by washing a part of the blood which has been allowed to coagulate (which is far from being an improvement on the old method, in which it was obtained by whipping). As to the globules, these are estimated from the blood deprived of its fibrine. This defibrinized blood is put into boiling distilled water, to which is added a small portion of acetic acid. By this mode the globules and the albumen are coagulated (and consequently separated from the other

organic substances, and the salts); and the filtered coagulum gives, after drying, the globules and the albumen. The quantity of albumen is known by the analysis of the serum, and the difference is the globules.

In the methods of which we have spoken, the proportion of the globules is obtained *par difference*, while all the other materials of the blood can be estimated directly. If the globules could be isolated and weighed separately, it is evident that the analysis of blood would be more rigorous. It is here, in fact, that the chief difficulty lies; and in spite of the efforts of chemists who have preceded M. Parchappe, and in spite of the efforts of M. Parchappe himself, this difficulty has not yet been removed.

If the defibrinized blood, poured on a filter, would allow the serum to pass without the globules, the thing would be simple enough; but the globules of human blood and of mammiferæ pass through the filter together with the seurm. It is true, that by adding to defibrinized blood a solution of sulphate of soda, we can retain on the filter a great part of the globules, as Berzelius observed; but this separation is not sufficiently complete to make an analysis exact. Moreover, this mode of separation proposed, for analyzing the blood, by M. Figuier, and perfected by M. Höfle, is as yet far from having given results superior to other methods.

M. Schmidt, having the same idea as M. Parchappe, has endeavored for some years to establish, in another way, the proportion which exists in blood between the moist globules (that is to say, as they actually exist in the blood) and the plasma. By means of micrometric observation, M. Schmidt has compared the size of moist globules to that of dry globules, and he has concluded that the proportion between these two quantities is as 4 to 1; that consequently it is sufficient to multiply by 4 the weight of the dry globules, obtained by the ordinary proceedings, to ascertain the weight of the moist globules. Now, in making this operation, and admitting as a mean of the analyses of blood, that the weight of the dry globules is 130 in 1000 parts of blood, we arrive at this result, that the proportion of moist globules to the plasma is as 520 to 480 in a thousand parts of blood; that is to say, these two quantities are nearly equal to each other.

It is somewhat curious to observe that the numbers proposed by M. Parchappe are identically the same as those of M. Schmidt (520 to 480). And it is yet more curious that M. Parchappe has arrived at this result by a mode which he regards as not very exact, for it consists in comparing with the whole weight of the blood, that of the clot cut in fine pieces and dried.

To sum up, we can say that at this time the methods of analyzing blood (we have only spoken of the principal ones), are all faulty in some respects. It is, however, something to have established the approximate relation which exists between the two essential elements of the blood, namely, the moist globules and the plasma. But this is only one side of the problem, and organic chemistry still waits for a mode of rigorous analysis.*

M. Parchappe insists, with reason, on the necessity of taking account, in physiological experiments and in analyses, of the kind of blood which is examined chemically. We have, ourself, pointed out at another time the great differences which blood, drawn in different kinds of vessels, may present; we have studied this subject for nearly a year in the chemical laboratory of the faculty, and we shall hereafter publish the results of 120 analyses, which will bring to light facts of great interest.

M. Parchappe finally, and this is the really original part of his work, has studied with care the phenomena of the coagulation of blood; that is to say, the cooling of blood, the formation and contraction of the clot, the separation of the serum, &c. He has proved that the clot exposed to the contact of air, exhales carbonic acid

* The following table, which we take from a paper by Fred. Hinterberger, of Giessen (*Archive für Physiologische Heilkunde, t. VIII*), shows the difference which the use of one or another method of analysis may make in the results. M. Hinterberger took the blood, obtained in bleeding, from the vein of the arm of a child, attacked by angina tonsillaris; he divided this blood into three parts, and made simultaneously the analysis of it according to three different methods. It must not, however, be supposed, from this table, that the analyses of blood as now made can lead to no good or useful result. If, in the place of making the proportion of these analyses to 1000 parts (which is necessary to bring fibrine into line), if, I say, they had proportioned it to 100 parts, as is generally done in analyses of mineral chemistry, the differences would be singularly lessened. If the proportion of albumen obtained by the method of Figuier and Höfle is, in these comparative analyses, much less than in the others, it is very probable that the albumen contained in the serum of blood, saturated with sulphate of soda, was not completely precipitated by heat (the alkaline salts prevent, in fact, to a certain degree, the precipitation of albumen), and also that a part of the albumen remained on a filter, with a mass of globules.

In 1000 parts of blood—method of	Dumas.	Scherer.	Figuier and Höfle.
Water,	789.71	791.29	796.86
Soluble substances,	210.29	208.71	203.14
Fibrine,	2.35	2.82	2.35
Albumen,	75.31	73.63	43.85
Globules,	123.92	110.25	130.32
Extractive matter, fat, and salts,	8.71	22.01	26.62

and absorbs oxygen, that to this absorption of oxygen and exhalation of carbonic acid there corresponds a brightening of the color of the superior layers of the clot, that this brightening increases with time, reaching successively deeper and deeper layers, and that it does not take place in an atmosphere of carbonic acid or of azote. There are some facts yet more interesting, which we already knew from the labors of Valentin and Matteucci, that the muscles taken from a living animal and placed in close vessels filled with atmospheric air, or oxygen, comport themselves in the same way.—*Gaz. Hebdom.*

Singular Abnormity of the Arterial System.—Constriction and Obliteration of the Aorta, &c. &c.

MESSRS. EDITORS :—Thinking that the description of a rather rare pathological specimen which I examined in the dissecting room of the University this Winter, would not be uninteresting, I have taken the liberty of giving you the results of my observations.

The aorta was obliterated immediately below the arch at the commencement of the descending portion. The vessel rose from the heart of the normal size, and at the point mentioned, became suddenly constricted, as if the obliteration had been caused by a ligature. The cord resulting from the diminution was about the size of a crow-quill and of about 3 inches in length, when it regained the normal calibre as suddenly as it had lost it. The right subclavian was so much enlarged, as to rival in size the aorta and resemble a second "arch." The superior intercostal branches of this artery were very much enlarged and inosculated very freely with two large vessels given off by the aorta below the constriction. These vessels arose from the thoracic aorta, in the same position as the fifth and sixth intercostal arteries ; but instead of passing forward between the ribs, they ran rather obliquely upwards, crossing the vertebræ and the heads of the ribs to the angles, at which point, the upper artery between the first and second, the lower between the second and third ribs, they pierced the internal intercostal muscles and inosculated with the superior intercostal arteries. A peculiarity of these vessels was their very tortuous course, forming right angles at several points in their passage upwards.

The internal epigastric and internal mammary arteries were very much enlarged, and inosculated freely. The epigastrics were so large as to nearly equal the femorals in size.

I examined the thorax very carefully, and endeavored to ascertain the cause of the obliteration, but could discover nothing which threw any light on the subject. The adjacent viscera were in their normal condition, and there was nothing which appeared capable of compressing the vessel in that portion of its course.

Respectfully yours,

THOS. J. HARRISON, M.D., *Walpole.*

—*Detroit Jour. Med.*

Wounded Artery treated successfully, by Hacam, of Damascus.—[Dr. Sanguinetti has recently published in the *Asiatic Journal*, some extracts from an Arabic book, entitled "The History of Physicians, by Ibn Aby Oceïbi'ah." In it there occurs the following story, the date of which is given as occurring in the early periods of Islamism.]

"Hacam, physician of Damascus, passing before the shop of a surgeon-barber, saw a man who had been bled from the vena basilica by the latter. The artery had been opened, and the barber did not know how to arrest the blood, compresses and spider's webs having failed. Hacam called for a pistachio-nut, split it, threw away the kernel, took half the shell and placed it upon the orifice, then cut a linen bandage, with which he bound the shell upon the wound. After having firmly placed the ligature, he caused the patient to be carried near to the river Barada, had the arm placed in water, and left him to sleep upon the brink of the river, in charge of one of his pupils. He forbade his arm to be withdrawn from the water, unless the excess of cold should endanger his life. This lasted until evening, when the patient was conducted home. Hacam ordered that the bandage should not be removed before the fifth day. The shell fell off itself on the seventh day, leaving in its place some dry blood. Hacam again ordered them not to remove the clot, which became detached by degrees, and after a period of more than forty days left a cicatrized wound. The patient was completely cured."

Intestinal Perforation.—Dr. Reed, of Indiana, reports in the *Western Lancet* a curious case, occurring in his own family. His little boy, aged two years, having recovered from intermittent fever, was observed to be still unwell, and the existence of worms was suspected. Oil of chenopodium, turpentine, calomel and rhubarb, ejected no worms.

Diarrhœa and distention of the abdomen, which followed, yielded to anodynes and external applications of hops and vinegar, after which for three or four days calomel, and ipecac, and opium were administered. The child seemed to be improving for three or four weeks, when the former symptoms arose. Anodynes, &c., as before, were continued, when, at the end of three days, a tumor was discovered at the umbilicus. Poultices were continued for the night. In the morning the tumor had ruptured, and from the opening was issuing pus, and soon the head of a lumbricoid presented. A pair of forceps was used to extract it, which, when seen, measured eleven inches in length. Another was extracted measuring ten and a half inches. After the expulsion of the last, fœces flowed in small quantity from the same opening. A pad and bandage was applied over the umbilicus, and anthelmintics administered, on the supposition that more worms existed in the alimentary canal. Under the use of poultices and mild laxatives, the tumor subsided, the tenderness disappeared, and the orifice became perfectly healed. Since which time the boy has been hearty and healthy,—regular in all his functions as any child.

Pre-expulsion of the Placenta in Child-birth. By C. GOODBRAKE, of Clinton, Ill., March, 1856.

I was sent for in great haste to visit Mrs. B., residing $1\frac{1}{2}$ miles out of town, on the 21st of February, at 9 o'clock, A. M., and who, I was informed by the messenger (her father), was in the eighth month of her second pregnancy, and had that morning slipped on the ice before the door of the house, and fell with her back across a hewn stick of timber about eight inches square. On arriving at the house, I found the woman lying across the foot of the bed on her left side; her hands and feet cold, pulse feeble but quick, and complaining of a dull, heavy pain in the lumbar region, over which her mother informed me there was considerable abrasion of the skin, caused by the stick of timber, over which she had fallen. Upon inquiry, she informed me there was *very moderate* hæmorrhage, and that she had experienced only two or three *slight* bearing-down pains since receiving the fall, but complained of a continuous pain in her back, and an uneasy sensation in her right side, and said something had torn loose in her side when she fell.

The sensation in her side, she described as a gurgling of water,

and said it caused her to feel sick. In addition to these symptoms there appeared to be considerable nervous excitement.

After considering the nature of the case, and the symptoms as they presented themselves to my mind, I came to the conclusion, that by giving such remedies as would quiet pain, allay nervous excitement, and check the hæmorrhage, the case might possibly be safely conducted to the full period of gestation. With this view, I prescribed a powder composed of morphine, camphor, and acetate of lead; ordered the woman to be placed properly in the bed; directed warmth to be applied to her hands and feet, and enjoined strict quiet.

I now stepped into an adjoining room to the fire; but the changing of the woman's position in bed, brought on violent pains with increased flooding, and her mother soon called me to the bed-side, and informed me that the water had come away. I immediately proceeded to make an examination, and to my surprise found the placenta already protruding through the external parts, and before I had time to make any further examination, there came on a violent pain and the placenta came away entire; the head of the child following the placenta so far as to press against the perineum.

I immediately placed my finger in the mouth of the child, and while in this position I distinctly felt the convulsive or gasping movements of the child, and in a few seconds the woman had another violent and protracted pain which expelled the child. When the child was born it did not breathe, but seemed to be affected with a general tremor, every muscle perfectly rigid, with arms and legs flexed, face bloated, and lips purple. I immediately instituted artificial respiration, when to my great satisfaction, and the unbounded joy of the relatives of the little premature, it first began to breathe on its own responsibility, and then to squall. After the birth of the child, the uterus could be felt above the pubes, firm and well contracted, and there was no more hæmorrhage. Mother and child (female sex) are both doing well up to this time, March 10th.

I must not neglect to state, that about three months previous to the accident above detailed, this same woman received a fall by the upsetting of an omnibus, at which time she was considerably bruised and a good deal frightened. And she informed me that ever since that time she had experienced more or less of the "uneasy sensation" in her side, and which was only aggravated by her fall on the ice.

So far as I can now recollect, I have never read of a case similar to the one I have attempted to describe. I have been unfortunate

enough to have several cases of Placenta Previa come under my care, consequently I have endeavored to neglect no opportunity, by reading or otherwise, to inform myself on the subject, and to my mind, at least, this case presents the following points of interest :—

First. The very slight degree of hæmorrhage for a case of *reversed birth*, there being no more blood lost than in the majority of cases of ordinary labor. This might be taken as an argument in favor of the plan recommended by some writers in cases of Placenta Previa, namely, the detachment of the placenta to avoid hæmorrhage.

Second. The child being born alive after the expulsion of the placenta. How was life sustained from the time the placenta became detached and expelled, until respiration was established ?—*N. W. Med. and Surg. Journal.*

Case of Punctured Fracture of the Cranium, and Wound of the Brain, with loss of Cerebral Matter, without the occurrence of corresponding serious symptoms. By M. MORTON DOWLER, M.D., of New Orleans.

Instances of recovery after the most formidable injuries of the brain are not frequently recorded, and have, in some cases, not a little contributed to overthrow the theories of physiologists and psychologists, demolishing, at once, as with a "knock-down argument," the skull-bump psychology. The crowning case of Gage, related in the July, 1850, number of the "*American Journal of the Medical Sciences*," affords an exemplification, which, coming from a less reliable source, would be regarded as almost incredible. It has been seen in this case that a tapering iron bar, of the length of three feet seven inches, and of the diameter of one inch and a quarter, may enter beneath the zygoma, and pass out at the junction of the sagittal with the coronal suture, passing through the anterior lobe of the left cerebral hemisphere, and that the subsequent report may be, as in this case, that "the patient has quite recovered his faculties of body and mind, with the loss only of the sight of the injured eye." Nevertheless, whatever may be the deductions afforded by exceptional and extraordinary cases such as this, all surgery gives us emphatic warning that in cases attended with any manner of lesion of the brain, its blood-vessels, its meninges, or its bony protection, the gravest and most serious results should always be apprehended and guarded against, on the part of the attendant. A patient whose brain has been laid open, and the proper substance of the same

wounded, should be considered as being in both immediate and ultimate peril, and should no urgent or alarming symptoms whatever occur during the treatment of such case, it must be considered as a remarkable exception, and the more especially where the patient is of tender age, and has received a severe punctured wound. Of such exceptional kind is the following case, which is not like the case of Gage, given as an extraordinary case of mere recovery, but as exemplifying recovery without any symptom corresponding to the gravity of the injury sustained, being in this respect the most remarkable I have ever witnessed.

On the 3d day of September last, a little boy, Louis, son of Mr. R. D. Maclin, of the Fourth District of this city, received a punctured fracture of the skull, and penetrating wound of the brain, under the following circumstances: a negro servant girl ascended a shed, about 12 feet from the ground, for the purpose of driving a nail, using, in place of a hammer, a large male hinge, weighing nearly two pounds, which had been drawn from the post of a wide gateway; and after effecting her object, without taking the precaution to look downwards, she threw forcibly from her hand the hinge, which descending, struck the child on the parietal bone of the left side, an inch and three-fourths from the coronal, and one inch from the sagittal suture, the post-spike of the hinge presenting, and entering the brain. The child was at the time sitting with the head erect, and the iron entered in nearly a perpendicular direction. The spike of this formidable iron is a four-sided body, six inches long, gradually tapering on all sides, but so flattened laterally as to triple the width of the horizontal surfaces, thus terminating in a wedge, the edge of which is half an inch long, and which is dull and battered. The iron penetrated about an inch, passing into the medullary matter of the brain, making by the tapering spike, an external opening three-fourths of an inch long, and one-fourth of an inch wide. The great weight of the butt end of the hinge, and its slight deviation from the perpendicular direction of the spike, caused it to be swayed over across the sagittal suture, the thin parietal bone affording no other resistance than as a fulcrum on which the whole iron became a lever of the first kind, to injure the brain in the direction of the parietal protuberance, and the child's body was thereby drawn over to the right, and he was found with the right side of his head on the ground. Mrs. Maclin ran to the child's relief, and drew out the huge spike from his head, and she saw particles of cerebral matter adhering to the rough, rusty iron, and also escape from the wound. The blood at first escaped pretty freely, but soon ceased to flow. The force and weight of the iron was such, that it

produced a simple oblong opening the exact shape of the spike, without there occurring any surrounding depression, or radiating fracture, the displaced bone being comminuted into small particles, as is believed. But few of these latter were ever found, and must have cleared the wound during suppuration, otherwise they involve a mystery. After the transient primary shock had subsided, none of the symptoms of concussion or compression of the brain manifested themselves; nor did they subsequently, the child relating to his father, in an hour afterwards, how the accident happened, and inquiring "if he must die" from the injury.

Dr. W. P. Sunderland, the family physician, was sent for, and was soon in attendance. Very reasonably regarding the case as one likely to be attended with the gravest consequences, it resulted that I met him in consultation, and was fully impressed with the justice of his apprehensions. He had sponged the wound, and made the only topical application subsequently resorted to—a simple compress saturated with cold water. We engaged to meet twice a day and watch the progress of the case. The patient never at any time labored under any apparent urgent symptoms, excepting during the second and third days; nor was any medical treatment found necessary, or resorted to, excepting the administration of an occasional saline aperient. Excepting during these two days, there was but little febrile irritation or pain: there was freedom from delirium, from coma, and the intellectual manifestations were unchanged, the wound soon beginning to suppurate, and to rapidly heal.

During the second and third days there was considerable nausea and uneasiness of the stomach. The patient was kept for many days strictly in the recumbent position. I discontinued visiting him at the end of ten days, and he was subsequently under the care of Dr. Sunderland. Towards the close of December the wound completely healed, and a firm membranous cicatrix now shows the seat of the injury. The patient is a child of great intelligence, and his faculties have in no way suffered from a wound in which there has been a loss of cerebral matter amounting, as Dr. Sunderland and myself both estimate, to at least a drachm in weight.

In neither the effects of injuries nor from the effects of remedies can we calculate on uniform results. The most inexplicable peculiarities and individualities interpose themselves, so as to render an ordinarily salutary remedy pernicious and an ordinarily fatal injury a thing of ready cure. Much here remains to be elucidated before the depths of pathology and therapeutics can be considered as explored. —*N. O. Med. and Surg. Journal.*

Diseases peculiar to the Sandwich Islands. By John Rae, M.D., Kaoli Hana, Mani, S. I.

Cutaneous diseases are very rife among the natives. These have been generally all classed by travellers under the head of scrofula; yet I do not think I have seen a case of scrofula which is so frequent in Great Britain, and sometimes is seen in Canada. There are several diseases, however, having some analogy to it, and to which the natives give various names. One of these is the *puupuu*, which, with some latitude of translation might be Englished, as a constant springing forth of fleshy knobs. The first cases of this disease that presented themselves to me had this appearance. Over the whole body, or over the lower limbs, there were sores, generally circular in form, and varying from a quarter of an inch to an inch and a half in diameter. The general skin was little affected. There was a slight ichorous discharge from the sores, and flabby granulations shot out from them all, so as to project a line, or a quarter of an inch from the surface. An intolerable itching beset some, partially covered with a scaly cuticle, and evidence of new ones coming out, was afforded by red looking boils appearing at various points. I conjectured that the malady was connected with some venereal taint, and applied an iodine wash externally, and gave mercury internally (blue pills). Under the stimulus, the superfluous granulations subsided, the discharge became less and less thick, and in a fortnight or three weeks the sores were covered with a pretty firm coating of new skin and cuticle.

I was here first led to remark the extraordinary vigor with which the renovation of skin and cuticle goes on among this race. Although, in these cases, the original skin had been completely destroyed, yet, in a month or two, the scars were scarcely perceptible, being only noticeable, on a cursory view, by a more polished surface, and requiring a close inspection to trace the line of demarcation between the old and newly organized substance.

I subsequently found many varieties of this, or a similar affection. On the scalp it assumes the appearance of scaly blotches. Frequently it shows itself in a swelling, accompanied at points with acute pain over a large extent of the areolar tissue. For instance, the whole extent of one upper extremity, including the fingers and shoulder, or all the space occupied by one or both scapulæ, and part of the back, or one cheek may seem greatly swelled. There being no discoloration, one would fancy this to be produced by simple œdema; but on grasping the part, though it yields to the impress of

the finger, it does not pit, but possesses an elasticity, which enables it, on the pressure being withdrawn, immediately to resume its preceding form. If not checked, this swelling points at one or more places, and a copious thin discharge, with a gaping sore or sores, gradually assuming the appearance of those I have described, is the result. Sometimes the muscular fibre seems to be involved, and then, though the external sore skins smoothly over, there is a considerable depression under it, marking the loss that has taken place.

On more extended inquiry, I was led to doubt the connection of the affection with venereal, and I am not yet satisfied as to this point. I tried various other methods of cure. I found several more or less effectual. Thus applying cautiously, and to portion by portion, a solution of cor. sublimate, or, sometimes, simply touching the part or parts affected with lunar caustic, would check, or remove it. But I think on the whole my original treatment, by some combination of iodine and mercury, succeeds best with me. I have indeed never found a case that has withstood the united action of the two. I ought, however, to add that I have seen cases, in elderly people, where the malady affecting one or both of the lower extremities, has assumed a form, very closely resembling elephantiasis, as it appears among the Spanish, or rather negro population of New Grenada—the limb permanently swelled and stiff, with deep scars, apparent loss of muscle, and a toe or two dropped off. I have wished to essay the effect of a similar treatment on some of these, but have not found any willing to try it, and very much doubt if it would have any considerable success.

Akin to the *puupuu*, is an affection of which the native name is *alaala*, that attacks the neck. When at its *acme* it stretches from ear to ear in front, in a sort of very large, and very rough necklace. Were one to make a string of smallish unopened oysters, by piercing a hole right through each, and arranging them by putting them back and belly, and with their edges, therefore, outward, and were he to place this on the bare neck, in the position I have indicated, it would closely resemble the appearance presented by very many cases of *alaala*. Add to this, that the neck is stiffened, the face swollen, and a feverish state induced, and you have the characteristics of the complaint. After continuing for months, or years, the necklace slowly drops off, leaving a wide scar, which is gradually almost completely obliterated. I have not treated this complaint, as the natives seem to think that its nature is to come and go of itself. It seems generally to attack boys, when at the age of puberty, and to prevail most in rainy districts. At Helo it is said to be very rife.

These are the most prominent varieties of cutaneous diseases, but I may add, that itch is rather common, and often seems to be the exciting cause of *puupuu*, making a troublesome combination.

You will observe that all this differs from scrofula. The glands are not peculiarly affected, and the discharge, in so far as I have seen, is not charged with curdy flocks. It may be, however, that in some of my cases, this characteristic feature might have appeared, had it not been that the treatment seemed rapidly to affect the discharge, converting it into proper, or as it used quaintly to be termed, laudable pus.

Though the two cutaneous affections of which I have spoken may be made to comprehend the mass of such complaints, yet, were one to attempt a minute description of all, in which the skin is more or less involved, he might perhaps find something analogous to whatever nosologists have noted from ring-worm to leprosy and scrofula. In fact most of the natives have, or have had, some skin disease or other. A scaling off of the cuticle, leaving but a thin remnant that easily bleeds, is common among the aged. Their predisposition to these diseases is indicated by their uncomfortable feelings when deprived of the fresh water bath, and by the quantity of old cuticle which rolls off their skin when for a few days they have been unable to obtain this luxury of a tropical climate.

One would suppose that in a climate of so equal temperature as this, diseases of the lungs would be rare, but the fact is that they are by no means so, and that many of the race, especially young women, are carried off by consumptions.

Affections of the bronchial tubes—colds and coughs—are frequent, from exposure to wet and consequent cold. If these are attended to, and squills and laudanum are almost specific for them, they pass away ; but, recurring frequently and being neglected, the bronchial affection becomes deeper seated, pus is brought up, and things go on much as they do elsewhere, and death closes the scene.

My stethoscopic perspicacity is not sufficient to speak with certainty as to the existence of tubercles, and the strong prejudices of the natives run altogether counter to any *sectio cadaveris*, but I believe they would be found, and that their presence is, in many cases, the predisposing cause of this disease.

The malady in question, in the opinion of old residents, and I know some who have dwelt on this island for forty or fifty years, has become much more frequent than formerly. They assign several causes for this. First, since the breaking up of the old order of

things the condition of the female sex has undergone a change. In some respects they are more restrained, but in others less so, and on the whole an intercourse of the sexes more promiscuous and premature than before, is very common, and a cause of a waning in the vigor of the female frame. The constitutions of many of these has also suffered from the inroads of venereal maladies. But to this I shall afterwards recur.

The diet also, from circumstances the detail of which would lead me too far out of my road, has become less abundant. The people eat less fish and pork than formerly, and sometimes are pinched even for tœro.

Again, the general adoption of something like the dress of civilized men, seems to have produced a change in their habit of body, which, physiologically and perhaps ethnogically, is worthy of notice. Their hue has less of red and more of black in it. It would seem that, when the surface of the body is exposed to the skyey influences, there is a greater rush of blood to the minute external vessels, reddening the hue. The whole person becomes, in a measure, face. May not this be one cause of the change of complexion which to a great extent has taken place in the Celtic and Germanic races? We know from Cæsar and Tacitus, that even in the severe winters of the Germany and France of those days, the hardy natives scorned much encumbrance of clothing as a mark of effeminacy, and the fair hair and blue eyes were universal, cærulei oculi rutilæque comæ. The present Gaul is generally swart, and so are very many Germans. And civilization a thousand years since gave these a general and warm covering to the whole person. However that may be, the alteration in hue, which I have noted, is a fact of which I have no doubt. It has been accompanied by a greater susceptibility to cold, and to the inroads of those diseases, which that susceptibility produces.

Venereal diseases in some modification or another, are very widely spread. For this the voluptuous propensities of the women, and the concourse of sailors to these parts sufficiently accounts. Were I to attempt a description of all the modifications these assume, my epistle would swell to a treatise. I shall confine myself to one or two remarks:—

When such diseases are promptly met by proper treatment, they very readily yield to the simplest means of cure; but, if neglected, or ineffectually tampered with, they become both severe and obstinate. Strictures, connected mostly with the growth of large warts, and tumors in the urinary passages, are very common among females;

and, for want of proper aid, have been very fatal. One man, when speaking on the subject, told me, and as a thing by no means remarkable, that he had thus lost two of his sisters. In the male sex, such strictures obstinately recurring, and complicated with affection of the bladder, are also frequent and difficult to treat. Deep seated and very malignant ulcers in the throat, and other parts, with total derangement of the system, have carried off, and still carry off, many. But I believe there are few of these latter cases that would not yield to the persevering use of the appropriate remedies.

Of imported diseases, the measles was, some years since, one of the most fatal, sweeping off whole families. The large development of the areolar and kindred tissues, for which the natives are remarkable, may perhaps explain this fatality. To the same constitution of body I am inclined to attribute the peculiar phases assumed by the small pox in its recent visitation, and by the cow pox, its preventive. I had sufficient opportunity to remark these, having been sent by the board of health of this island round the larger part of it, for the purpose of attending to the sick and vaccinating the well.

You have probably heard that this scourge made a fierce inroad on Oahu in 1853, beginning at Honolulu, the capital of these islands. By the returns, the number attacked was about five thousand; the deaths about 2000. In the other islands the deaths reported amounted to two or three hundred. It is suspected, however, that these reports fall considerably short of the reality, and from the returns of the census for the year 1854, not yet completely made up, it is calculated that the whole amount of the population will appear to have fallen from 80,000 in 1849 to 70,000 in 1854. The deficit mainly attributable to the small pox.

The mortality at Honolulu was, I believe, augmented, as generally in such circumstances is the case, by a sort of panic terror that seized the natives, and seems to have had its influence even on the medical, and other authorities. What gave greater force to this, was the seeming fact, that vaccination was no protection. Those who had been vaccinated, it was said, fell equally with those who had not. It was not for some time that this assertion was proved erroneous, and that it was shown that vaccination, properly performed, and the vaccine disease running in due course, is a real preventive here as elsewhere. It is, however, in so far as my own experience enables me to judge, and as I have learned from others, a thing well ascertained, that, to carry vaccination properly through, is a matter of much greater difficulty with this than with other races

The main difficulty, as it appears to me, arises from the peculiar constitution of the natives rendering them so propense to skin disease. In consequence of this, if the vaccination be successful it is very apt to awaken some other affection of the skin which may be a sequel to it or a concomitant of it. For instance you may see the vaccine disease running in due course. The scales even may fall off leaving only a slight swelling of the part, but, instead of this disappearing it may be the prelude to a troublesome sore of an inch or perhaps two in diameter, which finally healing up, the diseased surface contracts, the skin smooths over, and but very slight trace of a scar remains. More frequently the supervening diseases come on when the vaccine vesicle is in progress, and a compound and disagreeable sore from which large quantities of lymph-like fluid may be discharged, is the consequence. It is apparent that if lymph be taken from such an arm it may produce either a true vaccine vesicle, or a compound, but yet truly prophylactic disease, or may give rise to a sore, which, though troublesome, is no preventive. Now a good deal of vaccination has been performed by the natives, and their idea is, the larger and more severe the sore, the more trustworthy. This I believe to have been one considerable cause of mistake and failure. The safest plan, if practicable, is to vaccinate from infants. In them the lymph is generally pure. It is less to be depended on in children, and in perhaps the majority of adults, is more or less contaminated. Another, and I believe a frequent cause of partial failure, is the vesicles not being allowed to reach complete maturity. Children, and grown boys and girls can scarce restrain themselves for a week or two from plunging into the frequent streams, in which it is their daily delight to gambol. And if one go, all follow. At night, too, between sleeping and waking, their habit of scratching every diseased surface recurs on natives of all ages, and unwittingly they destroy the forming vesicle or scab, which they may have been really desirous of preserving intact. I conceive that, when the progress of matters has been thus broken in on, the prevention is not perfect, and was unable to resist the energy of an attack, proceeding from the concentrated virulence of a contagion, raging almost uncontrolled, in the crowded suburbs of such a city as Honolulu. I may add that I have probably examined some thousands of arms and that the general appearance is this: The traces of a sore much larger than among whites, but smooth and level with the adjacent surface, towards the edge of it the slight traces of the diagnostic pits, often only perceptible by turning the arm so that the light strikes obliquely

on it. To the central space, void of pits, they give the name of the sunburnt spot, from a notion of the missionaries, that it was produced by exposure of the arm to his rays. This is the most usual appearance, but it varies considerably in numerous instances. If, having examined such an arm, you learn on inquiry that the constitutional symptoms had run their due course, you will generally find the system of the individual resists fresh vaccination.

The small pox itself, as I have seen it attack the native race, has these peculiarities : The eruption considerably less than in whites, and seldom confluent ; but, the pustules not so prominent, often flattened, and then blackish, in which cases the fever assumes the typhoid type, the patient sinks, and generally dies.

I believe the practice with the profession in these islands has not varied much from what is usual, with the exception of a more free use of wine and other stimulants.

The mortality seems to have been about 40 per cent. At Lahaina owing to the judicious measures of the authorities, ably seconded by the exertions of the medical men there, not only was the disease altogether confined to the strangers who brought it, but among them the mortality was less, say about 25 per cent.

The idiosyncrasy of the Kanaka, the vigorous life in him, and the great resources of the areolar tissue, are marked by the singular fact, that, however much or deeply pitted when he first leaves his couch, yet, in nine cases out of ten, these pits fill up, the skin smooths over, and in a few weeks there are no vestiges of the disease, or only slight discolorations, which probably the course of time will, in a few months or years, completely obliterate.

Before concluding, I ought to add that a new mode of treatment, or rather, as concerns Europe, the revival of an old one, was adopted by Ra Makau, a native friend of mine of considerable intelligence, and whose influence is extensive over a large portion of this island. It is this : The patient is sweated by being laid on mats over a heated bed of stimulant native herbs. This, he tells me, has the effect of bringing out a large and *prominent* eruption, in which case no typhoid symptoms supervene, and recovery under his hands was *universal.* I have had no means of investigating the matter sufficiently, but am inclined to think there is some truth in it. The idiosyncrasy of the native renders it not improbable, and the inquiries I have made are confirmatory of the success. But, I should feel more confidence in the statement, had some unsuccessful cases been confessed.

Rheumatism is not uncommon among the natives, and very fre-

quent with the whites. I have not found it hard to treat with the former. I do not recollect prescribing for a white man. The former generally, in their own practice, resort to bathing in a torrent of cold water, and what they call *loomy loomy*, a sort of vigorous shampooing of the parts affected. One or two friends of mine, who were long laid up with it in Honolulu, and under the best medical treatment there, have assured me that they have found no relief till they adopted this plan. Among the white race also, there is proneness to genuine scrofula, if there be any taint in the system, and cases of consumption also occur. Disorders of the bowels, diarrhœa and dysentery, are sometimes fatal, but there is perhaps nothing in these, or two or three other maladies, worthy of being noted.

The case is different with regard to a malady which spread over this island and Oahu in 1852, and the history of which seems to me to present some remarkable and instructive features.

I have next to notice the existence of considerable tracts of low lands devoted to the cultivation of taro, and the existence, in such situations, of extensive fish ponds. When I first cast my eyes over these Islands, I could not but think that these muddy pools, full of decaying vegetable matter, were likely to be productive of disease, of ague perhaps, or of more malignant fevers. I was assured that the salutary influence of the trades, sweeping rapidly all miasma into the wide ocean, secured from all such attacks, and had reason to think that this notion was, to a certain extent, correct. Still two circum stances induced a shade of skepticism in my mind, as to the absolute immunity of the Islands from any such attack, one of these was that the native language recognizes the existence of chills and fever, and the other characteristics of ague, and that, in fact, I had cured a native woman, who had been much reduced by febrile attacks, chiefly I think by the administration of quina. Another thing was the admitted prevalence, during the season of the *Konas* or South winds, of a malady, which the Missionaries termed influenza, and which was said to be almost universal in its attacks. I had, however, seen nothing positive, until the Summer of 1852, when a gentleman from California, when sitting in the same room with me one morning at Wailuku, called my attention to his hands, the fingers and nails of which I found assuming the appearance characteristic of immediate ague. They were cold, so was his face, the features of which were sunk and pallid. I told him that he was probably in for a fit of ague, and asked him if he had had it in California. On his answering in the affirmative, and informing me also that he had come over the

mountain from Lahaina the morning before, I imagined that the fatigue and cold of the ride, had brought on a return of a complaint which keeps so tenacious a hold of the system. I told him he had better get to bed, he said he would, but must go out first, and moving for this purpose, I made way for him to pass, and waited his return. This lasting longer than I thought necessary, I went after him, and found him lying on the grass insensible with blood flowing from his nostrils. We had him carried in and placed in bed, where he soon somewhat recovered. He said he knew nothing of the fall, but recollected having been seized with a strange dizziness as he was going out at the door. He had a slight shake and considerable fever with much pain in the head. The fever continuing long, towards afternoon I gave him a few grains of James' powder, of which I happened to have some that was very good. This bringing out slight moisture and producing abatement of fever, I gave him a full dose of quina. As his tongue was very foul, I had sometime before given him a few grains of blue pill. In the evening he felt better, but complained of pain in the forehead and strange restlessness. He suggested opium. I asked him if he had often used that drug, and, on his replying in the affirmative, and finding his pulse nearly natural, I gave him two teaspoonfuls of paregoric. This was about 11 at night. He slept pretty well, felt tolerably comfortable in the morning, and after a slight dose of salts, which brought off one or two dark and fœtid stools, his tongue cleaned, and his appetite returned. I gave him another full dose of quina, and afterwards repeated it in smaller quantities, being under the impression, all the time, that it was scorium *(sic)* of ague, somewhat modified.

Soon after this, I heard from a missionary friend, that the influenza had been for some weeks prevailing in Lahaina. From the description, I judged the disease, so named, was some sort of fever. Soon afterwards it got the name of the Lahaina, and, finally, in this island, of the Boho fever. There is much intercourse between Lahaina and Honolulu. It reached the latter port in about two months. Gradually it spread over this island of Mani. Its progress was very slow, it being Christmas before it reached Hana, the north-eastern division of the island, though the distance of that region from Lahaina, in a direct line, is considerably under sixty miles. But it made at last the whole round. It was two months before it crossed the mountain intervening between Lahaina and Wailuku, where I then resided, the distance in a direct line being under eighteen miles. The attack was sometimes very slight, sometimes severe

and attended with much suffering, but seldom protracted, most individuals getting over it in a week or two, and there being almost no fatal cases. The whites were always first seized, and very few of them altogether escaped. Next it spread among the natives, but very sparsely, here and there only a case occurring.

The first patients I had, after the case I have described, were whites, who had come out of Lahaina, or had been there. After about half a dozen such cases, it spread among those who had not been there. They had pain, sometimes excruciating, in the forehead, just over the orbits, reaching from temple to temple. The eye had a great deal of the peculiar aspect I told you of, in my former letter, as diagnostic of the Panama fever. This orbital pain was universal, and in some cases was the only symptom of disease. One friend of mine had even this only in a slight degree, with some intolerance of light, difficulty of reading, a flow of tears occasionally, and a little loss of appetite. He took no remedies, and these symptoms went off in a few days. Bleeding at the nose was very common, and, in some cases, even alarming. There was a dead heavy pain in the back, in severe cases becoming acute, described as intolerable, and shooting through to the extremities of the ribs. There were also pains in the legs. The pulse was quickened, the tongue slightly furred, and the alvine evacuations were for a few times dark, colored, and offensive. Oppression of the chest and cough sometimes supervened, especially among the natives. The first attack was very commonly attended with chills. It was altogether sudden and without premonitory symptoms. Two or three friends of mine were seized when riding on horseback, and got home with great difficulty. One of these recalled only that he had felt a sensation of giddiness, and then there was a blank, and he found himself lying on the middle of the road, and his horse strayed away.

I believe wherever it prevailed the phenomena presented were very similar to what I have described. I followed a similar treatment to what I had chanced to adopt at first, giving James' powder, slight doses of mercurial and saline purgatives, and finally quina. Sometimes when there was great redness, I added opium in the form of Dover's powder. The last I found of great service among the natives. Under this treatment the attack did not last over thirty-six hours. The quina prevented relapses, which were apt to occur if omitted. I believe the disease had the same character, and the mode of treatment was very similar, all over this island, and in Oahu. It seemed rather more severe in Honolulu, where almost every white man was simultane-

ously seized, so that the stores were almost all closed for a week or two. The population of that port was then something over twelve thousand, about a fifth being foreigners.

I very soon came to the conclusion that the malady was identical with the Panama fever, only much slighter, and told my patients so. I soon afterwards saw the same remark made in the *Polynesian*, the only English newspaper at that time published in Honolulu. This similarity is one among other reasons, why I have wished to give you a sketch of the progress of a malady, so little serious in its effects. It seems to me that the beginning of diseases, and the aspect they assume when putting on their most deadly forms, are particularly deserving attention. The former correspond to the *instantia incipientia* of Bacon. Now here it was evident that the first impression was on a certain part of the brain, and then extended to the nervous system in general. Such I apprehend is the case in the far more severe Panama and Chagres fever.

Again it seems to me that the progress of the malady serves to show how those forms of disease which we attempt to classify under the terms contagious, epidemic, endemic, &c., blend and mingle together. I have said it first broke out in Lahaina. That port is on the southwest of the Island. The small town stretches along the margin of the sea. Immediately behind, around, and on it, are tara patches, and large fish ponds. About a mile inland the mountains rise up and surround it like a wall of some thousand feet in height. The heat is generally great, and, this season, no trade-winds or land breezes had been felt for many weeks. I should add, that the decomposing lava mountains form beds of ferruginous clay. Thus, it was a fit nucleus for febrile disease. There was sufficient pabulum to feed it on should it be once generated. The predisposition of a single individual gave it birth, and, possibly, form ; for a few days after that first case, the malady with which he had been seized spread around. Having thus, shortly, as it were, grown into strength, it was able to progress beyond its birth place, and make way in regions that never would have first produced it. Undoubtedly individuals carried it from point to point, for it never progressed where there was not free intercourse. It was thus carried from Lahaina to Honolulu, yet it was not strictly contagious. Among the natives, for instance, it attacked only individuals, here and there, a quarter or half a mile distant, and having had no recent communication, and when it once reached Honolulu it was a real epidemic. It never reached the other islands because the intercourse is much less free between them.—*Montreal Med. Journal.*

A Winter in East Florida. By JOHN M. KITCHEN, M.D., of Indianapolis, Indiana, in a letter to PAUL F. EVE, M.D.

DEAR DOCTOR :—In the month of October last, I had the misfortune, as you are aware, of being severely attacked with pulmonary hæmorrhage, which threatened serious consequences, and although hæmoptysis in this country is not considered as positively indicative of phthisis, yet it is generally believed to be a suspicious symptom, and one that demands immediate attention.

It was the unanimous opinion of several medical friends, that I ought to seek a milder and less variable climate than is found in central Indiana, in which to spend the approaching Winter ; and as my own opinion coincided with theirs, it was decided that some portion of Eastern Florida should be the place of resort. This conclusion was arrived at, not as a consequence of the personal experience of others, for I was unable to meet with a single individual who had ever been in the country, but partly because there seemed to be a prevailing idea amongst medical men that the climate there was the best that could be found, and partly because about this time there appeared in several medical journals, and in numerous newspapers in the North, an announcement of the opening of a "Sanitarium," at Magnolia, East Florida, wherein it was stated that the temperature of the atmosphere there seldom varies five degrees in twenty-four hours, that the mean temperature of the Winter months is about 60 degrees, that but little rain falls, the frost is rarely seen, and that the location was chosen after much observation and deliberation, as particularly suitable for the Winter residence of persons afflicted with pulmonary diseases.

As this and other exaggerated accounts caused a disappointment in my expectations, and as I met with numerous individuals who expressed dissatisfaction with the climate, I have thought a plain statement of facts, by a disinterested person, might be interesting to the readers of the Journal, as well as serviceable to those who may hereafter think it necessary to follow in my footsteps. I will therefore give the result of my experience in a very brief manner.

I arrived in Florida the first of December, and remained until near the first of April following. During the same time not less than six hundred persons, mostly invalids from other States, visited there with the hope of being benefited in health, and it may safely be said that one-third of that number designed, before leaving their homes, spending the Winter at Magnolia, in the "Sanitarium," influ-

enced no doubt by the newspaper notices before referred to ; but when it is known that this "sanitarium" is nothing more than an ordinary hotel, capable of accommodating about thirty persons, it will be seen that the expense of such extensive advertising was at least unnecessary.

The principal places resorted to were St. Augustine, near the Atlantic coast, Jacksonville, Hibernia, Magnolia, Pilatka, Welaka, and Enterprise, on the River St. John's, Orange Springs, in the interior, and Middleburgh, on Black Creek.

The St. John's river is from one to five miles in width, one hundred and fifty miles or more in length, runs in a northerly direction within twenty miles of the sea coast and parallel to it, and empties into the ocean near the thirtieth degree of latitude. Jacksonville, located on the West bank of the river, is a prosperous town, contains somewhat near 2500 inhabitants, and possesses tolerably good hotel accommodations for invalids. At Hibernia there is only one family residing, that of Col Fleming. His table, although of the plain and substantial kind, is said to be inviting. Magnolia consists of a few houses scattered along the western side of the St. John's. The proprietor of the establishment there has the reputation of providing reasonably well for his guests. Pilatka is a small village, contains probably two hundred inhabitants, and is particularly distinguished for its miserable hotels. Welaka is a small place, as is also Enterprise. A good hotel is kept at the latter place. St. Augustine has the reputation of being the most ancient city in the United States. Its narrow streets and the style of its architecture betrays its Spanish origin. Population about 2000, and hotel attractions fair. So far as business is concerned, the place is actually destitute, and the inhabitants would be in danger of starvation without the money left there by strangers, hence it is to their interest to magnify the advantages of their climate in order to attract persons thither.

Black Creek is an excessively narrow, but very deep and crooked stream, rises in the interior and discharges into the St. John's. Twenty miles up the stream Middleburgh is situated. The site of the town is a sand hill, and immense pine forests surround it, which serve to shield it from severe winds. The number of houses will not exceed twenty-five, including a hotel, which I believe has always given satisfaction. I spent the greater portion of the Winter in this place, yet most of the other towns mentioned were visited by me. They are all accessible by steamer from Savannah or Charleston,

with the exception of St. Augustine and Orange Springs, and stages run to those points.

Thermometrical observations were taken by me during my stay at Middleburgh three times daily, at 7 A. M., at 1 P. M., and soon after sunset. The thermometer was under cover, but exposed to the North, East, and West winds. The temperature at St. Augustine was noted down for me by a friend, at the same hours under the same circumstances. The following condensed statement will show the result of my observations for the Winter.

The weather for the largest portion of December 1855, was mild and pleasant, indeed, such was the case almost throughout the entire United States. On only one morning during the month was the mercury found below the freezing point ; on Christmas day, however, there was a sudden and severe change of temperature *amounting to* a *twenty degrees in one hour*.

The extremes of temperature for the month at 7 A. M., were 30° and 71°, and at 1 P. M., they were 57° and 87°. The average temperature at 7 A. M., was 54° 38′, and the monthly mean was 62° 36′. Number of rainy days, nine.

January 1856, was characterized by frequent and violent changes, and by blustering winds ; in fact there was much weather that would be called extremely disagreeable in any country. The thermometer indicated a condition of the atmosphere below the freezing point on nine different mornings, and ice two inches in thickness was formed. Heavy rains fell on nine other days, but I have to regret that suitable means were not in my possession for measuring the exact amount. The extremes of temperature at 7 A. M., were 20° and 68°, though on one occasion the mercury was seen at 16°, in a thermometer which hung in a more exposed situation than mine. At one P. M. the extremes were 38° and 80°. The average temperature at 7 A. M., was 41° 51′. The mean for the month was 49° 52′.

February was more pleasant than January. Ice was seen on but two mornings, and there were but four rainy days. The extremes at seven A. M. were 22° and 63°, and one P. M. 40° and 80°. The average temperture at seven A. M. was 48° 37′. The mean temperature was 58°.

March was distinguished for copious rains, dark clouds, and high winds. Only eight really pleasant days were seen within four weeks, and it has never fallen to my lot to see heavier rains than fell on six different days. Severe frost occurred as late as the 28th of the month. The temperature at St. Augustine differed but little from

what was experienced at Middleburgh. The extremes there for December 1855, were 32° and 84°, and the mean was 61° 60′. In January the extremes were 22° and 76°, whilst the mean was found to be 49° 93′. The extremes for February were 23° and 82°, and the mean temperature was 56°. At both places the mean temperature of the coldest Winter day was 34°. In regard to uniformity of temperature, I find that during a period of ninety-two consecutive days, there were thirty-seven mornings that the thermometer exhibited a change of over ten degrees in twenty-four hours. On twenty-six of these mornings the change amounted to from ten to twenty degrees, and on eleven of them to from twenty to thirty degrees. On one occasion *the mercury fell forty-six degrees* within a period of twelve hours, and on another *thirty-eight degrees* in the same length of time.

It is not my wish to be understood by any of the preceding remarks as condemning the climate of Florida entirely; but I do desire to state most emphatically, that it is far from being the paradise which it has been represented. Notwithstanding there are a great many severe changes there, and much inclement weather, yet there is far less cold than is found farther North, and as the sandy soil rapidly absorbs the rain, there is less moisture in the atmosphere, and in elevated situations no mud, consequently damp feet can be avoided. Opportunities for exercising in the open air are likewise more frequent. There is an impression entertained by some that Florida air possesses curative properties, and one imaginative gentleman says, writing of St. Augustine, "The various chemical ingredients in the atmosphere impart to it healing power and medical virtue."

Nothing but disappointment can result to the invalid who entertains such an idea, for the most that can be said of a Winter spent there is that it places persons in delicate health under more favorable circumstances for recovery, than can be met with in more northern latitudes. For persons in the early stage of phthisis, I believe a residence in Florida from the first of December to the first of May, with nutritious, healthy food, frequent bathing, vigorous exercise, the judicious use of good brandy and cod liver oil, and by being absent from the cares and anxiety of business life, will result beneficially. Those far advanced in that disease will do better to remain at home, as there is scarcely a possibility that benefit will result to them by change of climate, and for physicians to advise such to go there, as has frequently been done, is, to say the least, cruel, for many, very many go there but to die, and that too away from the comforts of their own homes, and far distant from relatives and friends.

It may be well to state here that the natives of Florida are not exempt from consumption. Two persons died with that disease near where I was located, and I met with numerous instances of bronchitis and pneumonia. In selecting a location in Florida, I am decidedly of the opinion that one in the interior is preferable, away from the chilling winds of St. Augustine, and from the dense fogs which often rise from the St. John's. Mr. Stevens, of New York, who has spent ten Winters on the banks of the St. John's, and two in the interior, agrees with me in opinion. Orange Springs, Middleburgh, Micanopy, Ocalu, Alligator and Kennansville may be mentioned as desirable interior localities.

In conclusion, permit me to state that my own health was much improved ; whether the same benefits would have resulted by remaining in the North, it is difficult to say ; true, the Winter was excessively cold, yet it was uniformly so, and the atmosphere for a long time was without humidity, in fact just such a climate as Dr. Drake, in his great work recommends ; Fort Snelling being suggested by him as a suitable location.—*Nashville Journnl of Med. and Surgery.*

EDITORIAL AND MISCELLANEOUS.

Resignation.—In February last, Dr. E. H. Parker, Professor of Anatomy in the New York Medical College, sent in his resignation of the chair occupied by him in that institution. Other engagements, inconsistent with the duties of a public teacher, and somewhat unexpectedly devolved upon him, made this step necessary. The resignation has not yet been accepted, but as it is insisted upon by Dr. Parker, it undoubtedly will be, and a successor soon appointed.

New Hampshire Medical Society. After three years absence we had the pleasure of being present at the annual meeting of this venerable Society in June last. It is one of the oldest associations of the kind in the country, the last being its *sixty-sixth* anniversary; but it not only bears its age well ; it renews its youth. In years past it has encountered great perils, though the constant and vigorous support of such men as Twitchell has saved it from destruction. Now about as many new members are annually elected as used to make up the whole society. These consist chiefly of young and active men,

whose vigor tempered by the caution of those who are older, is carrying it on to a more useful future. Its sessions now continue two days, and are chiefly occupied by scientific—not constitutional—discussions, and therefore are looked forward to with pleasure, and are attended with profit. Last year the society published its first "transactions," which, though a modest volume, still gave promise of better things to come. The volume this year will be more valuable, if we may judge from the papers which we heard. In these transactions we feel an especial interest, the proposition to publish having originated with us several years since. Other good seed sown at that time we observe is springing up, and will soon bear fruit. Dr. Wheaton, the oldest Army surgeon now in service, was the guest of the Society.

New York and Philadelphia.

In the short sketch of the meeting of the American Medical Association, at Detroit, with which a friend who was present favored us, last month, allusion is made to some sectional feelings in which our Pennsylvania neighbors saw fit to indulge. We say sectional, not in the sense of North against South, East against West—but Philadelphia against New York. It is but another manifestation of a spirit which constantly peeps out from under the shad-bellied coats of our neighbors, and which we wish they would keep out of medical societies. If the exciting subjects which politicians succeed in keeping constantly before our people, are, with entire unanimity, excluded from the meetings of the American Medical Association, it would *seem* to be practicable for Philadelphians to lay aside for three days all *expression* of their feelings whenever New York is mentioned. We know that a disclaimer will at once be entered by our neighbors, against this feeling, and they will perhaps think they are innocent of it; but any one, with half an eye, can see that it exists, and is as manifest in medicine as in every thing else.

It happens that the early teachers in the medical department of the University of Pennsylvania were very distinguished men. Men who conferred honor on, as well as received it from, their professorships. They stood for a time alone in teaching medicine; as the faculty of a school, established for the purpose, they conferred degrees, and being without competition were marked and prominent among the profession. They became known at home and abroad, and their names are still cherished and honored.

But since that time other schools have sprung up, not only in Philadelphia, but in almost every State in the Union. Their chairs are occupied by men who compare not unfavorably with the successors of Physick and Rush, and their associates, and who, for originality of conception, for ability of execution, for learning, and for eloquence, need not fear comparison with any teachers of any nation. Physick was a great man, but Mott, and Brainard, and Pope, and Eve, and Gross, and Stone, are greater than he is who occupies Physick's chair. Still the same *prestige* is claimed for, and in a measure allowed to, Philadelphia, that it formerly possessed. Most tenaciously is it claimed, and, in general it is good naturedly allowed. But day by day it glides away, and at every opportunity that offers, Professors, Grinders, Publishers, and the whole corps medical of that city clutch at their departing fame, if possibly it may be retained a little longer. New York, especially, from its vicinage, and from its facilities for instruction, which so far surpass those of its neighbor, comes in for a chief share of ill-will. Students of medicine are told by respectable men, stories about this city, which, if we did not charitably suppose them to spring from ignorance, we should be compelled to brand as falsehoods. At New York, the managers of the National Association, chiefly from Philadelphia, contrive to break through the rule of custom, and to put a gentleman from another State in the President's chair. If New York demonstrates to the satisfaction of the stupidest, that it is possible to publish the transactions better, and more economically by between five and ten hundred dollars a year, Philadelphia clutches back the right to publish, though it does not dare to ignore the lesson.

But the exhibition of this feeling, to which we desired particularly to refer, was the outbreak of rampant jealousy at the last meeting of the Association, which took place when it was proposed that Dr. James R. Wood, of this city, should exhibit to the Association the inferior maxillary bone, which he had recently removed. By referring to our account of the proceedings, published last month, it will be seen that Dr. Gross presented a resolution, which was adopted, inviting Dr. Wood to exhibit the specimen. The next day, Dr. Neill, of Philadelphia, offered a resolution that "no medical preparation, account of surgical operation, &c., be laid before the Association until reported upon by a special committee."

Dr. Wood presumed, and correctly, too, that this resolution was aimed at him, and made some remarks which, we beg our readers to turn to and read, on pages 440–441 of the last volume, with the subsequent debate upon the matter.

Now, it is observable that "Dr. Neill disclaimed the intention of personal allusion in the resolution," but offered it because it "*embodied* a principle which never should be violated." It is apt to be the case, that when in debates a resolution is offered intentionally offensive to others, the thin cloak of *principle* is thrown over the deed. There is no reason to suppose this to be any exception to the general rule, for it is observable that the resolution was only withdrawn when the invitation to Dr. W. had *been stricken from the minutes*, and was not afterward renewed; as ought to have been done if Dr. N. was so very anxious to "embody his principle," and to guard against the abuse of the privilege by other persons.

It was not the sudden outgushing of a principle long pent up in Dr. N's mind. That would have broken forth when the resolution of invitation was offered; whereas, this was concocted between sessions, and, we judge, as deliberately planned, as it was impudently carried out. The fact that a rumor of the resolution had reached Dr. Wood even, before it was offered, shows that we are correct.

Let us note what was actually done. Dr. Gross, a man eminent in surgery, announces that there is present a gentleman who has a bone, removed in consequence of a rare disease, and proposes that the National Medical Association should examine it. This is agreed to, and some time after, a gentleman professes to desire to "embody a principle," and to be very squeamish for fear that the privilege might be abused or notoriety given to an individual, and makes such a fuss that the good-natured, easy, peace-loving Association laugh at a stale joke, and conclude, for the sake of their squeamish fellow-member, not to preserve any record of their desire to look at the bone. The squeamish one is satisfied, but the feelings of a worthy gentleman are wounded by the very tone of the resolution.

The removal of the entire inferior maxillary bone has been twice accomplished successfully, and both times by surgeons of this city. Both specimens have been offered to our National Medical Association, with the proposal that a limited amount of time should be devoted to their examination; and twice, at the instigation of members from Pennsylvania, has the Association voted not to examine them. Does any one suppose that such would have been the result if an English, or German, or French surgeon had offered, under precisely similar circumstances, to exhibit to the same body such a specimen? Not at all; but all would have gazed with staring eyes and gaping mouth, and have always been proud that they had been present when "the distinguished stranger from abroad" described his

wonderful operation. Or would the same course have been adopted by Pennsylvanians, if the lower jaw had been removed first in Philadelphia, instead of New York? Never! And we may add, that the residence of the operator being in that city, no one from New York, or elsewhere, would have so given way to petty jealousy or envy as to adopt Dr. Neill's course.

Dr. J. R. Wood certainly does not need any "notoriety," to be acquired from the Association, but it is a question whether the Association can afford to indulge in the notoriety of twice refusing to receive such rare specimens. Neither of these gentlemen needs Dr. Neill's endorsement, but it is doubtful if Dr. N. will not need some purgation to cleanse him from the odium of this resolution.

We rejoice, not that Dr. Wood has been thus treated, but that there is no danger of the supposition that what we have said (and it is not half we feel), should be attributed to cliquish partiality. We rejoice that we are at liberty to express freely our sentiments concerning this transaction, and to enter our protest against the spirit which, desiring to gratify an illiberal jealousy, does not hesitate to violate the rules of common civility, and to injure, not New York, but the fair fame of our National Association.

Omission.—In the report of the proceedings of the Association, at Detroit, which we gave last month, by some accident, but what we cannot conceive, there was entire omission of the fact that a report on "Strychnia, its chemical and toxicological properties," was presented by our friend, Dr. Lewis H. Steiner, of Baltimore. It was referred to the committee on publication, and will appear in the transactions.

Iodine Water.—Samples of a preparation with this name have been sent to us by Dr. Anders, of this city, by whom it is prepared. Chemists, generally, state that iodine can be dissolved in water, but that the solution is a very weak one, containing in fact only $\frac{1}{7000}$ part of iodine by weight. Dr. Anders states that this is only a simple solution in Croton water, and may be made as strong as $\frac{3}{4}$ of a grain to the ounce. That which we have is said to be $\frac{1}{2}$ grain to the ounce. The preparation is a decidedly brown fluid with a strong smell and taste of iodine. When allowed to stand in an open vessel the color and taste both disappear, the remainder being simply limpid water. We have seen a copy of the report of an analysis, made by

Dr. Chilton, in which he states that he finds it "to be a solution of pure iodine in water." It is a question of interest, by no means unworthy of investigation, what may be the therapeutical value of this preparation. It is claimed for it that it does not produce the same unpleasant effects that sometimes follow the exhibition, either of the solution of iodine with iodide of potassium, or by means of alcohol. If so, and we can in this way introduce pure iodine into the system, without combination with any other substance, important results may follow. Practitioners should remember this solution when prescribing iodine.

Congress of Physicians and Naturalists at Vienna.—This learned body is to assemble, in September next, at the Austrian capital. The American Medical Association, at its last session, appointed our friend, Dr. Glück, of this city, delegate to represent its interests at that meeting. His credentials have been issued, and he will soon be on his journey. The affiliation of various national societies seems a very desirable object, productive of kind feelings and mutual esteem in all parties, and we trust that this Association will make it a constant aim to render these bonds more and more firm.

Professional Changes at Louisville.—Rumor—in this case undoubtedly correct—says that after Dr. Gross's resignation of the chair of Surgery, in the Louisville Institute (the old school), it was offered to Prof. Eve, of Nashville, Tenn., who, of course, declined to accept, having a more desirable situation where he is. Dr. Ethelbert Dudley was next offered the chair, but he also declined to accept it—Dr. Joshua B. Flint, of Louisville, was then offered, and accepted, the place. Some things must have been rather hard to swallow by those members of the Faculty, as Yandell and Miller, who, some sixteen years ago, ejected Dr. Flint from the same chair to which he now returns victorious. The vacancy left in the *new* school by Dr. Flint's removal, is supplied by Dr. Richardson, late Demonstrator of Anatomy in the old school. We do not learn that all the turnings over in that city are completed. These are the most curious, that have thus far occurred.

"*The English Poisoner.*"—William Palmer, surgeon, of Rugeley, now notorious as a murderer, was hung at Stafford, on the 14th of June. His last victim was a sporting friend, J. P. Cook, and it was for killing him that he was convicted. Strychnia was the poison used.

The Microscope and its Revelations. By WILLIAM B. CARPENTER, M.D., F.R.S., F.G.S., etc., etc. With an Appendix containing the Applications of the Microscope to Clinical Medicine, etc. By FRANCIS G. SMITH, M.D., Professor, &c. Illustrated by Four Hundred and Thirty-Four Engravings on Wood. Philadelphia: Blanchard & Lee.

Scarcely had time been allowed for a careful perusal of the English edition of this book, before its American rival was laid on our table, not only copying the original, but with an Appendix of about 70 pages by Prof. Smith. This has been accomplished by advance sheets of the work being forwarded to the publishers, and with Dr. Carpenter's sanction; so that this is an authorized edition, with something of the protection afforded to it which ought to be secured by an international copyright law.

The first five chapters, with the introduction, give a history of microscopes and microscopy, the optical principles on which they are constructed, the apparatus which is necessary or convenient to the observer, the way to manage the instrument and the mode of preparing and preserving objects—that is, this is the portion of the volume concerning using the instrument intelligibly. It is quite like Quekett's book on the microscope. The next three chapters are of vegetable life, protophytes, the higher cryptogamia, and phanerogamic plants. Then follow chapters on protozoa, animalcules, foraminifera, polycystina, etc., zoophytes, echinodermata, polyzoa, mollusca, annulosa, crustacea, insects, and arachnida; one chapter on the tissues of vertebrated animals, another on the applications of the microscope to geology, and the last, a very short one, on polarization, etc. Three hundred and forty-five cuts illustrate these chapters.

It will be seen at once that this is not a professional book—having, in fact, nothing to do directly with medical science—but of use to every one who has any fondness for, or desire to commence, the study of the minute and beautiful wonders of creation. Dr. Carpenter is eminently a compiler; not to the exclusion of originality, but all of his books are largely made up from the labors of others. This is no defect, but an advantage—for desirable as original observers are, it is quite necessary that some one should bring their results together, and, as it were, run them into one homogeneous mass. Liebig possesses much of this same characteristic, carried, in his case, to an injurious excess. He generalizes and groups too hastily, Carpenter usually with consideration and accuracy.

The appendix supplies some of the deficiencies of Dr. Carpenter, but chiefly in treating of American microscopes and their manufacturers. To the medical man it supplies what Carpenter omitted, because it would interest only one class of his readers, and, in his own words, "it would have been impossible for him to compress, within a sufficiently narrow compass, a really useful summary of what such readers can readily learn elsewhere." Prof. Smith has hardly succeeded in overcoming this difficulty, and yet to those who are not familiar with the subject, his additions will be interesting and useful.

Although we are particular, some might say whimsical, about the *physique* of books, we have nothing to object to this volume, so far as its proper contents are concerned. It is very handsomely printed on good paper, the impressions from both types and cuts being uniform and good. It is very well bound in muslin, and every thing about it is in excellent taste, except the addition of the publisher's catalogue at the end—that hodge podge of pictures and titles. Sixty-four pages is a grave addition to a book already large enough. This, however, by the way of parenthesis. There is a large fund of information, of sources of intelligent recreation, even, in the volume, which make it of value to every one who is fond of natural science; and to such we cordially commend it.

"*These are my Jewels.*"—A tablet of marble has been prepared, for the new Medical College in Twenty-third street, with the following inscription, which fully explains itself:—

HÆC MEA ORNAMENTA SUNT.

Gorham Beales,	Francis Bullock,
William W. Cahoon,	Francis P. Colton,
Henry H. Curtis,	Enoch Green,
Horatio W. Gridley,	Elihu T. Hedges,
Henry W. Porter,	A. Judson Rand,
Lefroy Ravenhill,	David Seligman,
John Snowden,	Sidney B. Worth,

"Students of the College of Physicians and Surgeons, died of pestilential disease while serving in the public hospitals of New York. This tablet is erected by the Faculty, that the memory of these martyrs of humanity may not die; that, taught by their example, the graduates of the College may never hesitate to hazard life in the performance of professional duty."

Honors to Medical Men. The Minister of Agriculture and Commerce of the French empire, has made the following acknowledgments

of services rendered in 1855, when the cholera raged on the Lower Rhine :—

Gold Medals to three physicians and one health officer.

Silver Medals to five physicians and three medical students.

Bronze Medals to six physicians.

Mon. A. Millet, acting professor at the medical school at Tours, has been authorized to wear the decoration of Knight of the Order of Leopold (Belgian), and Mon. J. Sichel, the occulist at Paris, has been authorized to wear the decoration of Commander of the (Spanish) Order of Isabel the Catholic.

The New Orleans Medical and Surgical Journal. A number of this long established journal, has at length reached us, for which we are trying to be grateful, having mailed the MONTHLY to its direction for something over two years. It is edited by Dr. Bennett Dowler. We make some extracts from this number, and should another ever come, shall hope to be able to do the same with that.

Dr. Benoiston de Chateauneuf has just died, at the age of 84 years.

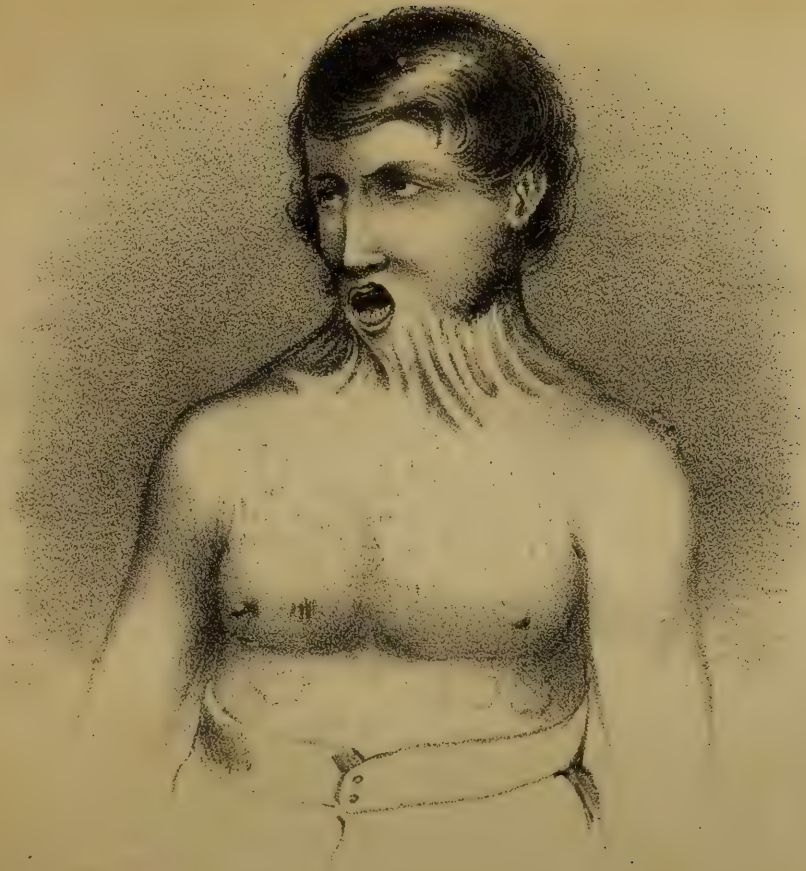
A new medical journal has just appeared at Madrid, called *Emancipation Medicale.*

DEFORMITIES.—Those having cases of deformity u[illegible] their control which they cannot or do not wish to treat, will do [illegible]ell to send them to Dr. H. G. Davis, of this city, whose articles have occasionally appeared in the MONTHLY, during the last six months. His apparatus seems to have many excellencies, while his long experience in applying it makes his opinion doubly valuable.

Dr. A. K. Gardner's book on Sterility, is published, and will be noticed next month.

CHEAP ENOUGH.—The following advertisement—a little pathetic, somewhat ludicrous, and very impudent—illustrates a phase in quackery which is just now ascendant :—

"A retired physician, whose sands of life have nearly run out, discovered, while living in the East Indies, a certain cure for consumption, bronchitis, coughs, colds, and general debility. Wishing to do as much good as possible, he will send to such of his afflicted fellow-beings as request it, this recipe, with full directions for making up and successfully using it. He requires each applicant to enclose him one shilling, three cents to be returned as postage on the recipe, and the remainder to be applied to the payment of this advertisement."



I.



II

Dr ALEX. B. MOTT'S CASE OF DEFORMITY FROM A BURN SUCCESSFULLY REMOVED BY AN OPERATION.

THE AMERICAN

MEDICAL MONTHLY.

AUGUST, 1856.

ESSAYS, MONOGRAPHS, AND CASES.

Remarks on Deformities from Burns; with a Successful Operation on a formidable case. By ALEXANDER B. MOTT, M.D., Surgeon to St. Vincent's Hospital, and the Jew's Hospital, New York, &c.

Burns have long been known to produce some of the most frightful disfigurements that occur in Surgery. Pott, Ambrose Paré, and other early surgeons, record the difficulties that occurred from this source in their days; Roux and Sir Astley Cooper allude to them in more recent times. Mr. Cleghorn, of Edinburgh, a celebrated Scotch brewer, who, in consequence of the frequency of such accidents among his workmen, treated scalds with an ability not inferior to any of the Faculty, as Abernethy himself sarcastically admitted, declared that the contraction arising from the cicatrix was the only calamity beyond his reach; and every surgeon of experience must, necessarily, have met with them as among the most troublesome of the difficulties he has to encounter.

Many of them have occurred to me, but I do not recollect one more striking than that which the case illustrated in the accompanying plate presents. The patient, a young man

named Patrick Lavel, aged twenty-three, applied to me in the latter part of the month of December, 1850, for the purpose of obtaining relief from the effects of a burn which he had sustained in his youth. A glance at the plate will explain his condition. In early life he had been subject to one of the frequent accidents arising from fire, and, as usual in such cases, contraction had subsequently ensued to a most distressing extent. A cicatrix occupied the entire front part of the neck and chin, and extended from ear to ear. It was the result of an injury which he had received by falling into a stove when only five years old, and the consequences had ever since been of the most painful as well as disagreeable description. The appearance of the face was distorted in the highest degree; the chin was drawn down to within half an inch of the upper portion of the sternum, and (so firm was the contraction) it was impossible for him to raise it or close his lips. The inconveniences he experienced, as well as the constant exposure of the mouth, prompted him to apply to me for relief; and it will be obvious at a glance how great the necessity was, as the man, though neither unintelligent nor beyond the prime of youth, had in his aspect all the marks of imbecility and age.

Having made a careful examination of the case, I arrived at the conclusion that it could be relieved by an operation, and so informed the patient. I at the same time warned him of the danger incidental to all plastic operations—namely, the hazard of sloughing, and leaving the parts in the same condition as before. In my advice and explanation he fully concurred, and urged me to undertake whatever course I saw fit. Thus allowed free scope, I reflected on the means by which the operation could be most effectually performed, and after due consideration, there appeared to me but one mode by which it could be successfully accomplished. From the nature of the cicatrix, which extended from the underlip far down upon the chest and over the clavicles, I could discern no other chance for success than by taking sound material from over the region of the scapulas; and, as at this period there was a prevalence of erysipelas in New York, it was necessary to undertake so extensive a cutting with precaution. Several patients on whom I had recently operated had been attacked by it, and

fearing a similar result in his case, I urged upon him the expediency of postponing the operation for a few weeks. This he did; and when there was no longer any probability of the apprehended affection making its appearance in the flaps by which I proposed to replace the parts that had been destroyed, I at the end of a month resolved to operate.

The arrangements having been duly made, on the 27th of January, 1851, I proceeded to carry my designs into effect. The operation was performed in the following manner:—After throwing the patient into a state of insensibility by means of chloroform, I made an incision through the middle of the cicatrix, extending from half an inch below the lobe of the right ear to a corresponding point on the left side of the neck, and carefully divided the tissues, which were firm and dense, until the sterno-cleido-mastoid muscles were brought into view. The patient being fully under the influence of the anæsthetic, I was enabled the more readily to make a gradual tension of the neck, and to divide the resisting tissues; but I found it necessary to cut through the sterno-cleido-mastoid muscles before I could get the head into its proper position. This accomplished, the sheaths of the carotid arteries and deep jugular veins were plainly to be seen. Due caution was of course taken to avoid them, and the space before me to be filled up was now distinctly visible. It was extensive, measuring no less than eleven inches in length, by five and three-quarters in breadth—and, as I had anticipated, it would have been folly to have attempted filling it up with one flap. I accordingly continued my incision behind the ear and carried it down about six inches and a half in a line with the upper edge of the scapula. Thence I extended it downwards and backwards across that bone a little more than six inches, and up to the posterior part of the neck, leaving a base of about three inches to the flap, with a view of providing for an adequate and free circulation. The flap was next dissected upwards and left as thick as possible, for the purpose of being brought round to the anterior part of the neck; and, to relieve the twist as far as practicable, the anterior incision was continued upward to the posterior of the ear. This effected, a similar flap was taken from the opposite side, and brought to join the other on the mesial line. I had taken

the precaution to have an adequate extent of the new material and the space was consequently filled up without tension. Nothing now remained to complete the operation but to bring the extremities of the flaps together. This was effected by numerous interrupted sutures; and the edges were afterwards in like manner attached to those of the upper and lower portions of the wound, as indicated by the dotted lines in the figure.

The dressings consisted of short pieces of adhesive plaster between the sutures, and narrow pieces of lint spread with simple cerate over the edges of the wound. The object of this was to avoid any pressure which might obstruct the circulation; and, with a similar view, a piece of lint secured by a bandage was lightly applied around the neck, over the whole. The wounds on the back were dressed with lint, and the edges drawn together as much as possible.

The patient quickly rallied from the effects of chloroform, and, to avoid the unpleasant consequences arising from its use (that is, obstinate vomiting), which I feared might supervene and interfere with union by the first intention throughout the wound—thus defeating the aim of the operation—I cautioned him, and gave strict orders to his attendants that he should have no kind of nourishment or drink for several hours. This is a course that I invariably adopt after operations in which chloroform has been administered, and I moreover take the precaution of not allowing the patient to eat for at least four hours previously. No vomiting ensued, and but little nausea supervened; the latter being arrested by the application of a sinapism to the epigastric region.

On the evening of the operation I revisited the patient at 9 P. M., and directed twenty drops of Majendie's solution of morphine to be given, and repeated if necessary during the night.

Jan'y 28th. The patient had slept well, and the nausea had disappeared. I allowed him light nourishment, and visited him daily until the 31st, when the wound was dressed for the first time. In consequence of having previously taken the precaution to spread the lint with simple cerate, I found, as anticipated, that the original dressings had not adhered so closely as

they generally do ; and had the gratification of discovering every appearance of union by adhesion along the upper and lower edges of the flaps. The only portion which evinced a disposition to slough was the end of each of these as they united at the mesial line of the neck. Here a discoloration had ensued to the extent of a finger's breadth ; but the effect was readily obviated by various stimulating applications which I used for the purpose of arresting its progress. In the course of a few days the slough detached itself, and I then drew up the sides of the wound as closely as possible by means of adhesive straps. It healed kindly, and the patient was able to move about his room freely in the course of two weeks. No suppuration followed under the flaps ; and the wounds of the back granulated rapidly and healed. During the month of March, the patient returned to his avocation much relieved, and entirely recovered from the effects of the operation. Subsequently I saw him from time to time, with the view of remedying the slight inconvenience experienced from a small hard cicatrix which had formed mesially at the end of each flap where the sloughing took place, and, on the 12th of April, I made an incision on each side of this excresence, and removed it all. The edges of the wound were then brought together ; and, having allowed myself what might appear a superfluous extent of material in the first operation, I was now the more thoroughly convinced of the advantage arising from this course, as it enabled me to bring the soft integuments together without making any tension around the neck.

This subsequent incision healed kindly under ordinary treatment, and the patient returned to his usual occupation in the course of ten or twelve days, without the slightest necessity for again requiring my aid.

I have several times seen him since the last operation, and until within a year he has never been entirely beyond my view. He is so now, only because he has not the smallest occasion for surgical aid ; having been completely relieved by this plastic operation, and again enabled to hold his head erect—an object of considerable importance for a man of his trade, which is that of a carpenter. He is able to close his mouth without difficulty, and his personal appearance is much

improved. On meeting him casually in the street, no one would ever surmise that he had been the subject of an operation so formidable. He is now free and unconstrained in his movements, and has all the appearance of being a vigorous and intelligent man.

The drawing No. 2, was taken from life about a year after the first operation, and any traces of the incisions have since more effectually disappeared. I am not aware of any operation so extensive as this having ever been performed for the purpose of remedying a similar deformity, and at the time I operated on this patient I had not heard of a similar case having been recorded. Some two years after, my attention was drawn to one, reported in the "American Journal of Medical Sciences," Vol. IV. by Dr. Mütter, of Philadelphia, but it was on a much smaller scale; and any instances we find on record in the usual surgical authorities are still more limited. It is astonishing indeed how little has been written on such an important point in surgery, and, still more so, how little has been attempted. Dr. Mütter's is the only other case in this country that falls within my recollection; and on the opposite side of the Atlantic still less appears to have been accomplished. The late Mr. Henry Earle, of St. Bartholomew's Hospital, London, is seemingly the only British practitioner of note, in any degree identified with the subject; and even this accomplished gentleman, though the son of the former Sergeant Surgeon of the English court, apparently had very imperfect notions on the matter.

From the fifth volume of the Medico-Chirurgical Transactions (p. 96 et seq.), it will be perceived that he merely proposed cutting away the whole of the cicatrix, and bringing the edges of the skin towards each other as far as possible, in a transverse direction, by means of slips of adhesive plaster. A moment's consideration will suffice to show how utterly inadequate such a procedure must have been. The contraction, on healing of the wound, must either have been still greater than before; or, as in the instance which he gives of attempting thus to treat an injury of the forearm, the incision must have remained open so long before being finally closed by the tedious process of granulation, as to be equally painful and inconvenient to the

sufferer. Indeed, it was very properly objected in England at the time, that had not the patient been a child only six years of age, where future growth might be anticipated to afford an adequate supply of new material, such an operation could never have been attempted with the least probability of success; and the forcible subduction of the power of the flexor muscles, accomplished in this case by the protracted application of a splint to the posterior of the arm, must have produced a degree of inconvenience and suffering to which no adult could be expected to submit.

In conclusion, I would add that it is perfectly possible other cases may have occurred without falling under my notice; and I would at the same time express a hope that the attention of the profession may be more extensively directed to this subject; as, from the brief detail of the case I have just recorded, it will be obvious at a glance, how much of human pain and of human deformity may be relieved by a comparatively simple and in no degree dangerous operation.

209 Tenth Street, June, 1856.

Cephalic Version. By H. Gatch Carey, M.D., Dayton, Ohio. Read before the Montgomery Co. Medical Society, at its July session.

History and General Considerations.—Cephalic version was an operation generally resorted to by physicians in cases of transverse positions of the fœtus in utero, prior to the middle of the sixteenth century. To bring the vertex back again over the pelvic arch, appears to have been the only manual process practised by them for relieving the mother of her offspring in the above accidents. The idea was so generally entertained, and its success and practicability so uniformly conceded, that some of the primitive accoucheurs went so far as to recommend and even practice turning by the head, in cases of breech and foot presentations. Although known to them, primitive accoucheurs rarely attempted podalic or cephalic version, especially if the child evinced signs of vitality. The teachings and labors of Ambrose Paré, however, effected a change in

professional sentiment upon this subject. He strongly advocated these latter operations in preference to cephalic version, and such was his influence, that the latter fell almost wholly into disuse. For several generations it was rarely performed, and when mention was made of it by teachers and authors, terms of derision and opprobrium were applied to the operation. At a later period, Smellie, Mauriceau, La Motte, Roux, Leroy, and others, alluded to the operation more respectfully, and gave the circumstances in which it was applicable.

The teachings of this latter class of physicians, however, upon this subject, were only exceptions to the general rule in their day; and it remained for Hamant, of Strasburgh, to revive the practice and restore it to a recognized position among the most favorable operations for relieving transverse positions of the fœtus in utero. His precepts and example have been followed by quite a number of French, German, and American practitioners, and thus bids fair to rival the most successful manœuvres for accidents requiring the manual interposition of the accoucheur. Modern authority, however, still preponderates against the operation.

"It may be that those old practitioners of the days of Queen Elizabeth, may have succeeded by pushing up the presenting shoulder, and getting the head at last to come to the strait again, but such an event appears, in any case, most improbable."—*Meigs.*

"The practitioner will experience great difficulty, and most likely fail, in attempting to bring down the head in a favorable position, when the shoulder presents."—*Huston.*

"Cephalic version has but few advocates at the present day, and is confessedly applicable to such a limited number of cases, that it is scarcely worthy of our formal consideration. For this reason, and because I have no experience in it, I shall confine myself to podalic version."—*Miller.*

"The cases are few in which it is proper or possible, to bring down the head of the child to the os uteri, or, in other words, in which we can and could perform what is termed *cephalic* turning or version."—*Simpson.*

"There are three species of version which have been recom-

mended, and all perhaps enjoy their peculiar advantages. They are cephalic, pelvic, and podalic version. Of these, that of raising the shoulder and bringing down the head, would be the safest to the child, because there would then be little chance of pressure on the funis umbilicalis ; and it is that pressure which usually destroys the child when extracted by the breech or feet ; but, although safest to the child, it is the most dangerous to the mother, as well as most difficult to the operator. The form, size, and slippery nature of the cranium, all combine to produce this difficulty."—*Ramsbotham.*

"If the patient be known usually to have a short labor—if the pain be brisk, the os uteri dilated, or in a relaxed and easily dilatable state, the liquor amnii retained, and the head movable—then the head may, without difficulty or much irritation, be placed in a proper position, with a fair and reasonable chance of success."—*Burns.*

Velpeau, who gives adhesion to cephalic version, answers the above objections in the following language :—1st, It is not always difficult to seize the head and exert considerable force upon it ; 2d, If the waters have not long been discharged, one may often without difficulty, seize the vertex and bring it to the centre of the brim, however far it may have been distant ; 3d, That delivering by the breech is far from being a simple and safe operation ; as regards the child, it is less so than cephalic version, even if the forceps should afterwards be applied.

Few propositions are better established, than the complete control which the accoucheur has over the child, prior to the rupture of the membranes. In this condition, Churchill compares version to the turning of a child in a bucket of water ; and Simpson says, there is so much room while the child still floats in the liquor amnii, that if you can seize firmly almost any part of one or both the lower extremities with the introduced hand, you will readily effect your purpose. This buoyant condition of the child, would lead one to suppose, that an accoucheur at all familiar with obstetrical manipulations, might readily cause the vertex to take any position, which his inclinations, or the necessities of the case should chance to demand.

The fathers in this art, were, to a limited extent at least, able to accomplish this end, through the parieties of the abdomen of the mother ; and there are few, I apprehend, of the present generation of physicians, who would willingly acknowledge the superiority of obstetricians living in the fifteenth century, over them, even in this particular. The practicability of cephalic version no longer admits of doubt, and the only question arising in the consideration of the subject, is the comparative immunity which it secures to the child and mother, from danger, when contrasted with pelvic and podalic version.

In medicine, as in most other relations of life, extremes, rather than medium positions, are quite prone to be taken. This is true to such an extent, that theories and speculations are often made to take the place of facts and sound deductions. Scarcely a new article of the materia medica, or instrument in surgery, is introduced to the consideration of the profession, that will not find a host of enthusiastic advocates, ready to proclaim its untold virtues. These innovations are often prejudicial to the interests of science and humanity, by substituting the unknown for the known ; by neglecting the use of those means which are efficient and successful, for those that are inert, if not positively prejudicial. However much of this may be true concerning the method urged upon the profession by Paré and his pupil, Guillemeau, for the relief of uterine accidents, I will not stop here to demonstrate ; but am of the opinion that the almost total exclusion of cephalic version from the lying-in chamber for two and a quarter centuries, has resulted in the loss to society of many a valuable life, that otherwise might have been saved.

Mal-position of the cephalic extremity of the fœtus requiring the interposition of the accoucheur for its safe delivery, may vary from a slight deviation of the vertex, to an entire displacement of this part, by some other portion of the body. Many distinct points of the child may present during the progress of the same case. Churchill, on one occasion, found the vertex, shoulder, and thorax, to offer at the superior strait, in as many different examinations, made at brief intervals. These changes, of course, occur thus readily, only, before the rupture of the membranes. The shoulder and arm are, by far, the most

frequent to present, when the head deviates from its normal position at the brim. They may, indeed, be the first to offer, but more generally the vertex, in a distorted or vicious position, presents, and failing to gain a ready admission, departs therefrom, leaving the outlet free to engage any other part that may, by the contractions of the womb, be forced in that direction. So long as the fœtus remains surrounded with the liquor amnii, the facility which this liquid furnishes for motion, exposes the child to deviations from a normal condition, in reference to the adjacent parts of the mother, by insignificant causes. Partial and irregular contractions of the uterus, are doubtless prolific sources of these abnormal positions of the head.

The causes of transverse positions of the fœtus at the superior strait, are by no means uniformly, if at all, under the control of the practitioner. Intimation of their existence are rarely ever furnished, prior to the commencement of labor. After pains appear, and the os begins to dilate, the attentive accoucheur will rarely fail to determine the position of the child. If a shoulder, arm, or oblique position of the head offer, they soon will be forced within the range of the finger; and if not, the very absence of some portion of the child at the superior strait, would arouse suspicion; and if this condition be joined to a projection of the fœtal membranes through the os tincæ, like the finger of a glove, rather than the oval of an egg, would be strong confirmation of a transverse position of the child, requiring manual interposition. This condition puts the life of both mother and child in extreme jeopardy, and requires to be promptly met.

Methods of relieving transverse positions of the fœtus in utero.—Three expedients are furnished—one by nature and two by art. They are version, evolution, and extraction by mutilation. The latter is only applicable to those cases in which the death of the fœtus is a foregone conclusion, and when speedy delivery is demanded, and the former methods are impracticable. At best, it is a revolting procedure, and should only be resorted to when all other means have failed to accomplish the urgent purposes indicated. Immediate danger to the mother

is thus generally obviated; but it furnishes no safe guarantee against ultimate destruction, from inflammatory action thereby superinduced.

Evolution is applicable to a more limited number of cases than the preceding; though, under favorable circumstances, it may result favorably both to mother and child. The operation involves great labor and protracted suffering to the mother. The profession is divided upon the minute details of this process. Denman first brought the operation prominently before the profession, and in his introduction to midwifery, furnishes us with an illustration of his idea of the process in the following language:—"I presume that after the long continued action of the uterus, the body of the child is brought into such a compacted state, as to receive the full force of every returning pain. The body, in its doubled state, being too large to pass through the pelvis, and the uterus pressing upon its inferior extremities, which are the only parts capable of being moved, they are forced gradually lower, making room, as they are pressed down, for the reception of some other part into the cavity of the pelvis, which they have evacuated, till the body, turning as it were upon its own axis, the breech of the child is expelled as in an original presentation of that part." He further adds, "premature or very small children, have often been expelled in a doubled state, when the pelvis was well formed, or rather more capacious than ordinary; but this is a very different state from that which we are now describing." This particular process received from its author the name of "spontaneous evolution," and still is retained in obstetrical nomenclature for historical purposes.

For many years, the views of Denman were received generally by the profession, as being correct; but in 1811, Dr. Douglas, of Dublin, demonstrated the fallacy of the above doctrine. "It is incompatible," he observes, "with the received notions of uterine action, to suppose that the uterus, when contracting so powerfully as to force down that part of the child which was at its fundus, could, at the same moment, form a vacuum, into which another portion, already low down in the pelvis, should recede." He claimed that the part first presenting remained fixed, and the body of the child, doubling

upon itself, was inch by inch forced into the cavity of the pelvis, and finally delivered in this flexed condition. To this operation he applied the term "spontaneous expulsion.*

But a very limited number of cases of shoulder presentations can possibly terminate either by spontaneous evolution or expulsion, as the case may be, with safety to the mother and child. The diameters of the pelvis must be capacious, indeed, if a mature, well developed fœtus can be forced clear through the straits, with its body doubled upon itself. Such results are literally impossible in a large majority of instances, and can only occur in immature births, and cases of deficient or imperfectly developed children. The unassisted powers of the uterus are often taxed to the utmost point of ability and endurance, to expel the fœtus when its vertex or breech present their long diameters to the corresponding ones of the pelvic outlet. In all such cases, should the shoulder or arm be the presenting part, they must be removed by some artificial means, and the presentation changed for a more favorable one, before delivery could by any possibility take place.

Danger to child and mother from pelvic and podalic version.—Already we have incidentally learned that Velpeau considers delivery by the breech, as far from a simple and safe operation; being even more hazardous to the child, than cephalic version and the forceps jointly. Upon the testimony of this eminent authority, I might here safely rest the case; but prefer to present the subject somewhat more in detail.

Under the most favorable circumstances, death takes place in one-third of all the children who are delivered by the feet after turning. This mortality results from the very nature of the operation, and depends in part upon violence done the deli-

* Not long since, I witnessed a case of this character in my own practice. I arrived at the bedside of the patient after the membrane had burst, and found an arm occupying the vagina. The propulsive action of the uterus was strong, the pelvis well formed, and with each returning pain, the child advanced in the direction of the vulva of the mother. The shoulder soon emerged from the superior commissure, and the clavicle applied itself closely to the arch of the pubis, serving as it were a pivot upon which the body of the child turned. The chest, loins, and pelvis soon emerged *seriatim* from the os externum, and the head finally came away, as though the breech or feet had originally presented

cate structures of the fœtus, and in part upon mechanical obstruction, offered to the free return of the fœtal blood, to the right side of the heart, by pressure applied to the funis. These are unavoidable, and therefore do not admit of a remedy. With perhaps a little additional dexterity in favor of the present generation of physicians, Ambrose Paré proved himself quite, if not absolutely, as successful in turning by the feet, as they have been. The impediments to improvement are mechanical, and must remain insurmountable.

Violence done the delicate structures of the fœtus in turning, is one cause of the fatality. If the waters have long been evacuated, the uterus will be found contracted, with more or less firmness around the projecting limbs and unequal surfaces of the child. To gain possession of the knees or feet in presentations of the upper half of the child's body, the hand of the manipulator must be forcibly passed between the yielding infant and the rigid womb. The injury thus done may be considerable in amount; but it is trivial when contrasted with the violence done the spine and nervous system generally, by compelling the head to traverse half a circle under the restraint of the contracting uterus, by means of force applied to the feet or pelvic extremity of the vertebral column. It is true, that complete flexion of the spine, as in spontaneous expulsion, is compatible with the life of the subject; yet this is not one of Nature's favorite methods of bringing new beings into this world. The most fruitful cause of the large mortality attending podalic version, however, is the obstruction afforded to the free circulation of blood in the funis umbilicalis. This may take place from the cord being put upon the stretch, by an accidental loop chancing to be around an extremity, or the neck of the child. Should it escape this accident, as soon as the inferior half of the body passes the superior strait of the mother, the umbilical cord is exposed to compression between the straits of the pelvis and body of the child. In 565 cases carefully collected by Churchill, of turning, in which the result of operation to the child was specified, 187 children were lost, or one in three.

These objections to version by the feet—though less favorable to the child than pelvic version, and generally recommend-

ed in preference to the latter—only contemplate the actual risk to the life of the fœtus. The mother also comes in for a large share of superadded suffering and danger. The hand of the operator is compelled to pass the os uteri, and traverse the entire body to the fundus of the womb, before possession of the feet can be gained. When the maternal organ has for some time been evacuated of its watery contents, and has moulded its parieties to the unequal surfaces of the child, it requires no small degree of force, to affect the desired object. Sufficient injury is thus often inflicted upon the surface of the uterus, to superinduce inflammation of its substance, resulting ultimately in death to the subject; or, the increased stimulation occasioned by the presence of the hand and arm rudely thrust into its cavity, may so excite and heighten action, as to result in a rupture of the womb, and death of the mother. From the statistical tables of Churchill, we are informed that out of 192 cases, where the fate of the mother was specified, 12 were lost—or one in sixteen.

Cephalic version is applicable to all those cases of deviations of the vertex, in which a reasonable hope is entertained of spontaneous delivery taking place, safely to the mother, if the head were the permanent presenting part. In transverse positions of the child, when the vertex is nearer the superior strait than the pelvic extremity, I think the operation commends itself to the careful consideration of the practitioner. It consists in carrying the presenting part—shoulder, arm, chest, or any other portion of the fœtus that may offer—upwards and in an opposite direction to that at which the head of the child may be situated, and as the hand is withdrawn, it is made to grasp the vertex and place it in the most favorable position for delivery.

The advantages of cephalic over podalic version are simple and readily expressed. *It is safer to the child.* All the circumstances which complicate and render podalic version dangerous to the infant, are avoided by bringing back the head to its normal position at the superior strait. Violence to its person and shock to the nervous system of the fœtus, are obviated. So, too, of the fatal compression of the umbilical cord, by the detained head in the pelvic cavity of the mother. Secu-

rity to life should be paramount to all other considerations with the physician; and if cephalic version can be performed, the above consideration alone should nerve his arm and inspire him with energy and perseverance to accomplish the delivery of the fœtus, in these cases, by the head. There have not been to my knowledge a sufficient number of cases collected by any person, of the accidents under consideration, to serve as a correct basis of comparison between the mortality of podalic and cephalic version. The results of the former we are familiar with. Of the latter, we can only reason, or judge from analogy and the recorded experience of those who have enjoyed extensive experience in this department of obstetrical practice. Ramsbotham tells us, that in transverse position of the fœtus, elevating the presenting part and bringing down the head again, is safer to the child than pelvic version. Dubois recommends the operation in some circumstances which he specifies. Smellie advises it in certain positions of the child. Leroy prefers it, generally, to version by the feet. Velpeau declares that it is less hazardous to the child, than turning by the feet with the aid of the forceps. Jöerg, among many others, insists that the head shall be brought back again to its place, whenever it is nearer the os than are the feet.

Cephalic version is eminently practicable.—If the accoucheur has the power of selecting his time for changing transverse positions of the fœtus in utero, there certainly is not the least excuse for him, in not placing the vertex in any position which his inclinations or the necessities of the case demand. The proper time for version, either by the head or feet, should be immediately after the rupture of the membranes.

So long as the child is invested with the membranes containing the amniotic fluid, so long is it under the most perfect control of the skilful manipulator. This axiom requires no arguments for its demonstration. If then, in this condition, a transverse position of the fœtus is discovered, and the passages are lubricated with the natural secretion, and dilated or dilatable, the practitioner is highly reprehensible in not attempting, at least, to restore the head to its original position. The barriers to his success are trivial, and when he has accomplished

his purpose he guarantees to the child one additional chance out of every three, for living, over version by the feet.

If the practitioner does not chance to see the case until the waters are evacuated, and the uterus still is disposed to yield kindly, under gentle pressure made upon the child, his conduct in reference to the case should be the same as in the preceding, where he had command from the beginning. If the child admits of tolerable motion under gentle manipulations, he may anticipate favorable results for his patient and the fruit of her womb.

But unfortunately for humanity, the accoucheur cannot always be present during the progress of parturition, to restore the fœtus to its normal position, as soon as deviations occur. Frequently, hours and days elapse between the prolapsus and the arrival of one competent to relieve the mother from her perilous and truly painful condition. The uterus has firmly, and perhaps rigidly, applied itself over the projecting limbs and inequalities of the child, like a mould. When this condition of the maternal organ obtains, with a shoulder firmly imbedded in the pelvic cavity, the chances of safety to the child become small indeed, under any treatment. The very act of removing the prolapsed part from its impacted condition, in order to give room for the passage of the hand of the manipulator, may require sufficient force to destroy the remaining spark of vitality which animates the new being. When such a state of affairs obtains, if the child is at all under the control of the practitioner, cephalic version affords still the only remaining hope of safety to the fœtus; and if it can be performed successfully, will endanger the integrity of the womb less than pelvic version; though the forceps have to be applied subsequently, to complete the delivery.

The preliminary steps of podalic and cephalic version are, in all cases, the same, viz: clearing the pelvic cavity of the presenting part, to give room for one or the other extremities of the trunk, by means of which delivery alone can be accomplished. A gentle continuation of this process, if conducted in the proper direction, will unavoidably bring the head free to engage in the superior strait. It is not at all necessary that the hand and arm should, to perform the work successfully,

be both thrust into the cavity of the uterus. The introduction of the former will accomplish all that can be expected in this process. In this respect, much is gained in favor of cephalic version, as the womb, which has already been goaded and lashed into furious action, by the unyielding nature of the body upon which it has been expending its forces, is saved the additional stimulus of the hand and arm, forced like a wedge between the child and its rigid parietes, to the fundus, in quest of the feet. Herein, also, is the great danger of rupturing the walls of the uterus. In cephalic version, the child is compelled to traverse but a small portion of an arc; while in podalic the head is made to describe one-half and perhaps three-fourths of a circle.

Where the presenting part of the child is immovably impacted in the pelvic straits, as occasionally is the case, the only remedy left for the safety of the mother, is mutilation of the child, either by eviscerating the thorax and abdomen, or by amputation of the head and delivering the child in separate sections.

Objections to cephalic version.—Dr. Simpson, in his recent obstetrical works, assures the reader that the fœtus in utero, with the membranes still entire, is under the most perfect control of the accoucheur; and yet, notwithstanding the mobility of the child, and the facility with which it may be changed from one position to another, he very gravely tells us upon the same page—559 *Op. cit.*—that the cases are few in which it is proper and possible to bring down the head of the child to the os uteri; or, in other words, in which we can, and should, perform what is termed, cephalic version or turning. To me such advice as the above bears upon its face an inconsistency truly glaring and irreconcilable. The child floats, and is freely subject to the manipulations of the practitioner; and yet, with the mortality of one in every three cases delivered by turning by the feet, he recommends it in all instances of transverse positions of the child. He condemns a practice, which his own statements unequivocally concede to be eminently practicable.

The objections urged by Ramsbotham to cephalic version, are, difficulty to the operator, and danger to the mother. The

difficulty apprehended by him, rests in grasping the head, and bringing it over the brim of the pelvis. If the outlet of the mother is cleared by raising the impacted part of the child in a perpendicular direction, I am willing to grant the embarrassment which the operator would encounter, from a disposition of the originally prolapsed part, again to resume its place at the superior strait. But should it once occur to the practitioner, that the head is attached to the trunk through the intervention of the neck; and that the operation of pushing the part which offers, in an opposite direction from that in which the head is located, would unavoidably drag the latter directly across the upper boundary of the pelvic outlet,—he would have little trouble, I apprehend, when this is accomplished, in grasping the cranium and adjusting it to the straits, though "the form, size, and slippery nature" of it conspire to the contrary.

The risk which cephalic version imposes upon the mother, apprehended by the above author, consists in "serious danger of injury to the vagina and uterus, by the repeated efforts which will be required to accomplish the operation." The introduction of the hand through the vagina into the os uteri, carrying before it a presenting shoulder, while the parietes of the womb only adapt themselves loosely to the irregular surfaces of the child, certainly does not necessarily involve any serious danger to the soft parts of the mother, nor require unusual skill in the obstetrician. Then, why we should apprehend laceration of the vagina, or rupture of the uterus, when we contrast with this operation the force that is often requisite to perform podalic version, is beyond my ken. In one case, the introduction of the hand within the os, is sufficient to accomplish our purpose; and in the other, not only the hand but the arm also, must be made to pass, and the former carried between the child and womb, up to the fundus of the organ, before possession of the feet can be gained.

With a limited experience, I perhaps should not presume to call in question the propriety of an operation so generally condemned as is cephalic version; and yet, it does appear to me, that the objections by which it has been set aside, are neither sustained by sound argument nor rational philosophy. All

admit the superiority of the operation, and especially the security which it confers upon the child, when judiciously performed ; and still most authors exclude it from the safe operations in obstetrics, on the score of *impracticability*.

In my humble judgment, in the early stages of shoulder presentation. or transverse positions of the child, when the upper half of the body presents, if the membranes are still intact, or recently ruptured, and the uterus is pliant and yielding under gentle pressure—cephalic version is eminently practicable, and less hazardous to the life and well-being of the infant and mother, than podalic version. If this be true, it certainly should be attempted in all cases of the above accidents, when circumstances warrant or demand a change in the position of the fœtus.

CASE.—With the brief details of a successful case of cephalic version which recently came under my care, I will dismiss this subject. I was summoned June 2d, by a German midwife, to see a patient in labor. I arrived, and found that eight days previously the membranes had spontaneously given away, and the waters gradually drained off ; that three and a half hours before my arrival, after a brief period of labor, a child had been expelled "doubled up." An examination, per vaginam, disclosed the left hand and arm of a second child presenting—and both quite out of the vulva. The shoulder and trunk were occupying the superior strait, with the head resting upon the left pectineal eminence of the mother. The uterus was applied with considerable force over the body and extremities of the child. I immediately determined upon cephalic version, if the operation was practicable. After laboring for a brief space of time, in fruitless efforts to accomplish this purpose, I passed my hand in quest of the feet, and doing so, more thoroughly rid the pelvis of the impacted body of the fœtus ; and again I addressed my operations to cephalic version. I was now able to replace the hand of the child across its breast, and grasping the shoulder and nape with my left hand I carried them upward and to the right side of the mother, until the vertex applied itself against the palmar surface of my wrist. I maintained this position, until the uterus again took

on action, when, on withdrawing my hand, I adjusted the vertex opposite the left pectineal eminence of the mother. The next succeeding pain completed the delivery of a mature, well-developed infant. The only attention subsequently required in the case, was the replacement of a prolapsed anus of the mother, which had come down during the strong propulsive action attending the delivery of the double birth.

Eunuchs, Circumcision, and Leprosy in the East. By Dr. J. Oscar Noyes, late Surgeon in the Ottoman Army.

The Mussulman law distinctly interdicts all mutilations of the human body. Moslems, generally, prefer death to an amputation, or a severe surgical operation of any kind. But, notwithstanding this, the employment of Eunuchs is still retained in the East. Their use by the Asiatic monarchs dates from a remote antiquity. They were numerous in the Eastern Empire before its fall; the Eunuch Narses having been, in fact, one of the best generals of the Greeks. Wherever polygamy has existed these mutilated specimens of humanity have been employed, and probably will be as long as that institution shall have an existence.

While in Constantinople I learned some curious facts relative to Eunuchs, which were confirmed during my visit to Egypt, where they are much more common than in European or Asiatic Turkey, on account of the greater facility in procuring proper subjects. The Turkish grandees obtain their Eunuchs from Egypt, where, in fact, they are exclusively made. The trade is not so active as in former times: as many of the Turks now confine themselves to one wife, there is not so great a demand for these Argus-eyed guardians of Eastern harems. So far as I could learn, about three hundred Eunuchs are annually made in Egypt, some of whom come to occupy important posts in the Turkish and Egyptian governments. The *Kisler Aga* of the Sultan. for example, is the third man in the Ottoman Empire, having charge not only over the harem of Abdul Medjid, said to contain in all nearly two thousand females, but being also the director of the revenues of the imperial mosques and

the incomes derived from Mecca and Medina. From a singular custom of the Ottoman Court, which I am unable to explain, a private harem is kept within the walls of the seraglio for the Kisler Aga, as well as one for the chief of the white Eunuchs.

Syout and Gireh, far up the Nile, are the only places in Egypt where Eunuchs are made for the Egyptian and Turkish markets. The white subjects are Circassian or Georgian boys, —the black, Abyssinians or Nubians, from six to nine years of age; the latter being brought by caravans from Sennar and Darfour. The village of *Zawry-el-Dyr*, near Syout, is the great metropolis of the trade in Eunuchs. The perpetrators of this horrid mutilation, to the shame of Christianity be it said, are Christian Copts; and as the subjects of their atrocious cruelty sell from $75 to $200, they drive a very lucrative business for Egypt. The mutilation—according to Clot Bey, from whom I have derived much information on this subject—is usually practised in the Autumn, that season being regarded as most favorable. In most cases the operators do not confine themselves merely to castration, as is generally supposed, but remove with a razor all the exterior organs of generation. Boiling oil is then poured upon the wound, and a short tube inserted into the remaining portion of the urethra, to prevent the closure of the same during the healing process, through which also the boy urinates. A tube is used for the latter purpose throughout life. Powdered hennah is then sprinkled upon the wound, and the sufferer buried for twenty-four hours up to his waist in the sand. Various kinds of unguents are afterwards employed. Three out of every four submitted to the operation, perish. Some efforts have of late been made to do away with this barbarous custom, but it will continue in a greater or less degree so long as polygamy shall remain the law of the East. A wealthy Turkish Pacha, wishing to make Abdul Medjid a valuable present, sent him a number of beautiful Circassian boys, who had undergone the operation I have described in Egypt. The Sultan, who is a humane and tender-hearted man, could not repress his indignation at the act, and directed that it should never be attempted again.

The Eunuch can ordinarily be distinguished by his exterior physiognomy. He is usually plethoric, beardless, and has a

feminine voice, while a sombre and irascible disposition naturally arises from the sense of degradation which he experiences. From a consciousness of physical inferiority, Eunuchs are usually most bigoted Mussulmans, seeking in the austere practices of religion a substitute for the ordinary pleasures of life. Some of them have a fondness for female society, and there are instances in which they marry. Circumcision is practiced with the Mussulmans, generally about the seventh year.

In Egypt, females are also circumcised by removing a part of the clitoris. The principal object of this is to moderate the *penchant* of Egyptian females to voluptuousness. It is supposed to have been practised by the ancient Egyptians, and is not prescribed by the religion of the Moslems.

In the East, young females are valued for their virtue. Effective means are often employed to secure virginity until marriage shall take place. In childhood, the labia are scarified and brought together, when adhesion follows, closing up the vagina with the exception of a small opening for the urine and menstrual secretion. The jewel, chastity, is in this manner kept safe. After marriage, a slight operation again opens the vagina. By this means an additional value is given to Circassian and Abyssinian slaves. The operation is not performed upon all who are sold, but upon many. It is not practised to any extent with the Nubians, who are less acceptable to the Mussulmans. On the contrary, I have been informed that it is customary for dealers in Nubian girls to deflower them with the finger, with the idea of contributing thereby to their development. I have also heard it stated, with how much truth I am unable to say, that Mussulmans, when long absent on a journey or pilgrimage, sometimes secure the virginity of their daughters, and even the chastity of their wives, by the means above described.

The Egyptian husband must have ocular proof that he has married a virgin; hence, as among the Arabs, the rupture of the hymen is a public, rather than a private act. The husband deflowers his wife, in the presence of the mothers of both, and other married females belonging to the two families, with the index finger covered with a white muslin handkerchief. Inspired by the most cruel and shameful jealousy, he often employs

a brutal violence in the accomplishment of this barbarous act. The handkerchief, covered with blood, is presented to the friends, who felicitate the victim upon her chastity; and the day after the marriage, the bloody proof of purity is exhibited publicly by the mother, or sister of the bride. If the proof of chastity be wanting, from malformation or previous rupture of the hymen, the female is sent back to her parents, and sometimes even thrown into the Nile. Fortunately, however, this barbarous test of virginity rarely fails; but Egyptian husbands are sometimes duped by artificial means, employed in the absence of a hymen, or even of chastity itself—means well understood by the inmates of the harems.

While in Jerusalem, I devoted some attention to the lepers. Dr. Simms, of the Jews' Hospital, was so kind as to conduct me to their mud kennels in a little enclosure just inside the Sion gate. But few travellers venture into this mephitic retreat, reeking with filth and corruption, for all avoid contact with the lepers. Of these pitiable objects, slunk away in their wretched dens, or lying near the city gates to reach out a trembling hand to the passer-by, there are about thirty in Jerusalem. The disease with which they are afflicted is by no means confined to Palestine, but appears to be more common there than elsewhere; and surely, O reader, one must travel far to behold objects of such intense and corroding misery.

The following description of the leprosy of Palestine, and of the usual course of the disease, is for the most part the result of my own observations upon cases in Jerusalem, some of the suggestions having been borrowed from an excellent article upon the subject, by Dr. Ainslie, published in the Transactions of the Royal Society.

The disease is common in Palestine, and its unfortunate victims are generally to be seen in the towns and cities. It spares no rank or sect, but is more commonly found among the poor than the rich. Aretarus, of Cappadocia, has given us, under the title of *Elephantiasis*, a very perfect description of leprosy. In his account, written in Greek, he makes particular mention of the falling off of the fingers and the joints of the feet. The medical men of his time not unfrequently called the disease *Leonia*, from the circumstance of its distorting the

human face so as to give it an appearance somewhat resembling that of the female lion when enraged. Others bestowed upon it the appellation of *Satyriasis*, from the lascivious disposition supposed to be one of its attendant symptoms, when in reality neither food nor rest invigorates the sufferer, and all carnal appetites, instead of being increased, gradually die away.

Leprosy does not often make its appearance before the age of puberty. In cases where it does appear before that age, it represses in a marked degree the growth and development of the body. The stature never becomes full and graceful, but remains shrivelled and meagre—the voice also continuing shrill and nasal. The mind suffers as well as the body. Lepers rarely smile, are drooping and listless, and several of the pitiable sufferers in Jerusalem appear to have been actually demented by the disease. The malady commonly manifests itself about the age of twenty-three or twenty-four, and rarely after the age of forty.

The symptoms of the *Lepra Arabum*, for that is the scientific name of the disease in question, are as follows :—A dryness and slight roughness of the skin of the hands, feet, arms, and legs, caused by the want of perspiration, are first perceived. The appetite fails, the sleep is disturbed by wild dreams, and the sufferer often wakes up during the night in a fright, with a palpitating heart and a sense of suffocation. In six or eight weeks his color becomes two or three shades darker, and his features slightly tumid. The dryness and roughness of the extremities are followed by numbness and insensibility to pain ; the pulse becomes extremely languid, and dark colored spots and purple tubercles usually appear on the wrists and ankles. The latter are not unlike segments of unripe currants in shape, of a shining and oily appearance, but are not attended with any pain. They increase in size and number, some of them occasionally scaling off to be quickly replaced again, while others generate a small quantity of ichorous matter, which, on drying, occasions a scurvy desquamation. As the leprosy continues to advance, the tubercles extend to the face, and render the person a most unsightly object. At the end of the first year the dryness and rigidity of the skin become universal. The numbness extends above the knees, and is so great that the poor sufferer may,

inadvertently, burn his hands or feet to the bone without being sensible of it. The surface of the body is wrinkled longitudinally, and where sensibility remains, feels as if stung with nettles. The countenance undergoes a marked change; the cheeks become bloated and puffy; the muscles of the forehead, enlarge and appear as if pushed downward, and the eyes, in all cases inflamed, rheumy, and made to look rounder than natural by the pressure from the neighboring parts, resemble those of some wild animal. The lobes of the ear are rough, the tongue is foul and in some cases covered with tubercles, the breath is fœtid, the hairs of the head gradually fall off, the nails break and waste away, the fingers and toes appear withered, and the appetite passes entirely away. In this advanced stage the malady will, sometimes, continue for years, but always with progressive misery.

At last, when the dyspepsia is most tormenting and the respiration hurried,—when the least exertion is sufficient to cause diaphoresis, although the only parts that perspire are the neck and a little surface around the waist—when the sufferer, already ugly, has become indescribably loathsome—a feverish heat comes on regularly every evening, the eyes assume a dim but brassy appearance, the voice sounds hollow, as if from a tomb, the pulsation can be felt only by pressure over the heart itself, ulcerations take place over the joints, and to add helplessness to misery the latter begin, one by one, to fall off. And thus perishes the poor leper in his filthy den, or at the city gate—perhaps in the vicinity of his synagogue or his mosque.

The leprosy of the Arabians—i. e., the disease with which the thirty lepers of Jerusalem are afflicted—is hereditary, but not contagious. Sometimes, however, it skips over a generation. There is an example of this kind in Jerusalem, in which the parents are both lepers, while the son, though considerably advanced in years, exhibits no indications of the disease. I examined the lepers of Jerusalem, as I would any ordinary cases of disease, without fear of contagion. That the Jews do not consider it contagious is evident from the fact that one of their number, who is afflicted with the malady, is permitted to dwell with his friends, and is not cast out among the common lepers.

Women are less subject to leprosy than men, while poor living, want of cleanliness, mendicant misery, and exposure to cold and damp are but too constant attendants of the disease. A fish diet is also found to render every symptom worse. In the East, where the classification of diseases is very imperfect, several kinds of cutaneous affection that are curable pass for leprosy, but the disease whose symptoms I have described appears to be incurable. Life, however, may be prolonged by careful attention to diet, exercise, and cleanliness. Mercury and mineral acids have been employed, but with how much success is not certain.

REVIEWS AND BIBLIOGRAPHY.

"Nullius addictus jurare in verba magistri."

The Causes and Curative Treatment of Sterility, with a Preliminary Statement of the Physiology of Generation. With Colored Lithographs, and numerous Wood Cut Illustrations. By AUGUSTUS K. GARDNER, M.D., A.M., Permanent Member of the National (?) Medical Association; Fellow of the New York Academy of Medicine; Member of the Massachusetts Medical Society; Member of the New York Pathological Society; late Instructor on Diseases of Women and Children in the New York Preparatory School of Medicine; Physician for Diseases of Women in the New York Northern Dispensary; Author of Monographs on Ergot Uterine Hæmorrhage, Rupture of the Perineum, etc., etc. pp. 170. New York: Dewitt & Davenport.

The subject of sterility is one of great interest to the medical profession, as the want of offspring is a fruitful source of domestic unhappiness. As Whitehead very justly remarks, "in cases where the connubial contract results in failure of progeny, both parties being in the enjoyment of health, and of the proper age, the cause is generally attributed, and in the great majority of instances very correctly so, to a faulty condition of the female organs; the non-existence of the procreative power in the other sex being, in reality, extremely rare." The

term impotence has been usually applied to the male, and sterility to the female, but this distinction is incorrect. Impotence consists in the incapacity for copulation, or in the impossibility of exercising the venereal act. Sterility consists in the aptitude of the organ for procreation, without the power of re-production. The female may, therefore, be impotent from congenital defects, or as the result of pathological causes. The female can only be said to be impotent, when the vagina is incapable of admitting the penis. But this does not necessarily involve sterility, as in some rare and exceptional cases, impregnation has taken place where intromission has been impossible.

The causes of sterility in the female may be divided into the 1. Anatomical; 2. Pathological; 3. Psychological.

The Anatomical causes are the following:—(a.) Imperfect development or absence of some one of the organs of reproduction—as the vagina, the uterus, the ovaries, or the fallopian tubes. Fortunately these causes of sterility are extremely rare.

The Pathological causes may be divided into three classes, viz: 1st. Those which can neither be ascertained during life, nor are amenable to treatment. The most frequent of these causes is adhesion of the fimbriated extremity of the fallopian tubes to the ovaries, resulting from inflammation of that part of the peritoneum covering the ovaries. The sterility of prostitutes is often due to this cause. This condition is often met with in the autopsies at the Blackwell's Island Hospital.

Impermeability of the fallopian tubes is another cause. The uterine extremity may be closed by the continuity of the lining membrane of the uterus over it; or, the canals may be impervious throughout their whole extent. As a remedy for this condition, Dr. Tyler Smith, a few years since, proposed to catheterize the fallopian tube; but we have heard of no one who has had either the hardihood or the adroitness to put the proposition into practice. Remembering this class of causes, we think the following statement, which we find on page 18th of Dr. Gardner's book, will somewhat astonish our readers:—

"One fact should be most particularly noted, that the regular, monthly, bloody flow, is always excited by the discharge of the ovum—that no other hæmorrhage ever occurs periodi-

cally—and as a consequence, which admits of no exception, *every woman who regularly menstruates is capable of being fecundated* under certain circumstances."

2d. Those causes which can be diagnosticated, but are irremediable—as fibrous tumours of the uterus, cancer, calculous depositions; in short, all those diseases which destroy the tissues of the uterus or of the ovaries.

3d. Those which can be detected, and. under favorable circumstances, removed by treatment.

While we avow our belief, founded on a somewhat extensive experience, that the majority of the cases of sterility are due to this class of causes, we think that the fact should not be forgotten, that when the apparent cause is removed, sterility is not always cured.

Furthermore, no conscientious physician will attempt to treat a case for sterility, without unequivocal evidence of some pathological condition. We will now notice somewhat in detail, the causes which come under this class, taking them up in the order of frequency, as they are met with, according to our belief. The experience of others may differ from our own in this respect.

(a.) *Inflammation and its sequelæ, ulceration, hypertrophy*, and *induration of the cervix.* Dr. Henry Bennet's work is now so generally known to the profession, that it is unnecessary for us to discuss this cause. We believe sterility is more frequently cured in removing this cause than any other one. But this condition is not always a cause of sterility, for in some females there is a peculiar aptitude to conception, which is not overcome by this pathological state of the cervix, and in others the restoration of the cervix to a healthy state, is not followed by a disappearance of the sterility. Dr. Bennet remarks, that in those cases in which conception has followed the removal of the disease, it has generally been only after an interval of a year or more. It would seem as if time were required for the uterus to recover its physiological powers. The truth of the remark will be confirmed by all who have had the opportunity of forming an opinion from observation.

(b.) *Partial chronic inflammation of the body of the uterus.* This is met with most frequently in the posterior wall of the uterus, resulting from an extension of chronic inflammation of the cervix to the body of the organ. But, in some cases, it is a sequence of parturition ; the uterus at that time being in a highly vitalized condition, does not return to its normal physiological state. The inflammation is only an exaggeration of the physiological circulatory state of the uterus after confinement. Most practitioners can recall cases where sterility is manifestly due to this cause,—the patient having once conceived, but after abortion or parturition at the full period, symptoms of chronic partial metritis have been developed, with marked exacerbations at the approach of the menstrual period. Conception rarely occurs where this condition exists, and if it does occur, it proves a curse rather than a blessing.

(c.) *Inflammation of the cavity of the body.* Dr. Whitehead regards this, which he terms chronic endo-uteritis, as one of the most frequent causes of sterility, which he accounts for in three ways.

1st. The inflammatory action going on within the uterus, and which is liable to be aggravated under states of venereal excitement, may prevent the formation of the decidual membrane ; and the ovum, even although impregnated, is necessarily thrown off without any manifestation of its existence in the fertilized state. 2d. The diseased condition of the lining membrane of the uterus may be extended to the fallopian canals, obliterating for the time their internal orifices, so as to oppose an insurmountable obstacle to the admission of the spermatic fluid within them, and thus to render the fertilizing effort abortive. 3d. The nature of the secretion furnished by the internal surface of the uterus, or of the vagina, under certain states of disease, may be inimical to the active existence of the spermatozoa, occasioning their destruction before they arrive at the extricated ovule. It may not be out of place for us to say here, that we have recently been much more successful in treating this disease than formerly. By means of Dr. Sanger's uterometer, an ointment of nitrate of silver is carried into the cavity of the uterus, with the happiest results. The

following is the proportions of the ointment which we generally use:—

℞ Nit. Argent Crys.			ʒij	
Ext. Hyoscyami	}	aa	ʒss	M
Ung. Cetacei	}			

Granulations of the cervix uteri. This is an affection little known to the profession as a pathological condition, although it is by no means a rare disease. It almost invariably causes sterility. We have never known an exception. It consists of an hypertrophy of the mucous membrane, or of the numerous follicles, which exist in the thickness of this membrane, more abundant in the uterine orifice than every where else. The French, in describing it, have used the term *framboisée* from the little hard, fleshy elevations on the os tincæ, resembling the distinct elevations of the raspberry. So, also, some of them speak of it as a granulous or raspberry-like inflammation (inflammation granuleuse ou framboisée.) But this is incorrect; it is not an inflammation, but an affection, *sui generis*, peculiar to this organ. The only part of the system in which analogous granulations are found, is the pharynx, as the pharynx alone possesses the same follicular disposition. Neither is it, as some have supposed, a result of inflammation. Again, the terms granulous excoriations, granulous ulcerations, have been employed to designate this disease, but they are equally improper. In ulceration there is always loss of substance, more or less extensive. But in the granulated state of the neck of the uterus, there is always a relief, a projection, an increase of substance; the *prominence* is perfectly appreciable to touch. Furthermore the granular state is accompanied by an excretion of glutinous, tenacious, semi-transparent, or sometimes slightly opaque and puriform mucus. Ulcerations, on the contrary, present the veritable pus at the surface without the mixture of any sort. The granulations commence in the interior of the neck, and extend by degrees from within to without. It causes sterility for two reasons. The mucous membrane which covers the internal surface of the orifice is tumefied, and this tumefaction diminishes by so much, the diameter of the orifice, and thus prevents the penetration of the

semen into the cavity of the organ. 2d. The viscous, glutinous character of the discharge from this orifice, its physical properties, are opposed to fecundation, as the mucus is often so tenacious that it is difficult to raise it with the speculum forceps. Several instances have occurred in our practice, where women have been married several years without conceiving, who were found to be affected with this disease, but who have become *enceinte* after having been subjected to the appropriate treatment for its cure.

Stricture of the canal of the cervix. This may be congenital, or the result of inflammation, or produced by flexion of the uterus. Dr. Mackintosh, of Edinburgh, regarded this as a condition frequently to be met with, and first recommended dilatation by bougies, which he tried in 27 cases, and cured 24; of these 24, 11 afterwards bore children. Dr. Bennet mentions two cases in which pregnancy occurred after dilating the cavity, and dividing the os internum by the metrotome; but he says that in both, inflammatory disease had existed, and it is difficult to say whether the dilatation had anything to do with the subsequent impregnation. He adds, "on the other hand, I have, in at least ten or twelve instances, dilated the cervix and divided the os internum in patients cured of inflammation, who have remained sterile." Our own opinion is, that this condition of the cervix is an occasional, although rare, cause of sterility.

Sub acute ovaritis. This is considered by Dr. Tilt as the most frequent cause of sterility. It produces it, 1, by accelerating the shedding of imperfectly developed ova; 2, by the retention of blighted ova; 3, by impeding their transmission from the ovaries to the uterus.

Since the publication of Dr. Tilt's work, we have been constantly on the look out for this disease; but we are compelled to believe that as an idiopathic affection it very seldom occurs. The group of symptoms which he considers as characteristic of this disease are often met with, but it is almost invariably associated with inflammatory disease of the cervix, and disappears spontaneously when the uterine disease has been cured. Indeed,

these symptoms are often developed in consequence of local applications made to the cervix, but they continue only during treatment.

Follicular disease of the vagina and chronic *granular vaginitis* Mr. Donné first called attention to the fact that the spermatozoa live perfectly in the mucus secreted by the vagina in its normal state; but that the vaginal mucus becomes so acid in some circumstances, as in cases of congestion, irritation or inflammation of this organ, that the spermatozoa appear to perish in a few seconds after being brought in contact with it. He suggests, "is it not remarkable that the means which appear to have been employed with the greatest success against sterility—such as sea-bathing, for example—are, at the same time, those which act upon the economy in general, as powerful modifiers of the secretions."

The above constitute the more common causes of sterility, which are susceptible of being remedied by treatment. As rare causes may be mentioned *uterine polypi*, *syphilitic hypertrophy of the uterus*, and *atrophy of the uterus*. We mention this latter among the causes, as in one case this condition was successfully treated. This lady, aged 22, married 4 years, first came under our care in 1851. She never menstruated previous to her marriage, although in perfect health in other respects, and remarkable for her personal beauty. Soon after marriage the function was imperfectly established. The secretion was very scanty, not exceeding a few drops per diem, but continuing six days, and attended with such severe pain as to confine her to her bed during the whole period. For the relief of this condition she had been under constant medical treatment. Her sufferings were rendered tolerable only by enormous doses of morphia. On a careful examination, no pathological condition could be discovered, except that the uterus was very small. The os tincæ felt to the touch like the nipple of a pregnant woman, while the body of the uterus could not be felt either through the vaginal or the rectal walls. During several months, for a week previous to the menstrual period, we practised, daily, direct cupping of the uterus.

Each succeeding period, the menstrual flow became more abundant, and the suffering constantly diminished, until she

was able to dispense entirely with the use of opiates. The increase in size of the uterus was remarkable. She has now become a mother.

Having mentioned the principal local conditions which give rise to sterility, and which are amenable to treatment, it will hardly be necessary to allude to the various constitutional conditions which render ovulation imperfect, and thus cause sterility.

The influence of climate and locality on fecundation affords an interesting field for study and investigation. The females of Ireland, those on the coasts of the Mediterranean, of the Island of Martinique, and of lower Egypt, are remarkable for their productiveness. In a certain locality of Connecticut, amenorrhœa and sterility are almost the rule. It is said, that in California sterility is almost unknown. We have been informed that many females have become fruitful, who were barren before removing there.

It does not comport with the practical purpose of this paper to discuss the *Psychological* causes of sterility. A cold, apathetic disposition, want of homogeneity of temperament between husbands and wives, undoubtedly exerts a strong influence in producing an unfruitful union, while a new and unusual moral excitement frequently arouses the dormant sensibilities of the reproductive system. B. F. B.

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1. *Prize Essay on the Use and Abuse of Alcoholic Liquors, in Health and Disease.* By WM. B. CARPENTER, M.D., F.R.S. Philadelphia : Blanchard and Lea. 1853. 12mo. pp. 178.
2. *The Physiological Errors of Teetotalism.* Westminster Review, July, 1855.

[The following paper, copied from the *North American Review*, is from the pen of Dr. E. R. Peaslee.—ED.]

Whether the doctrine of total abstinence from alcoholic drinks for persons in health is based upon the established facts and principles of physiology, is a question whose scientific interest is second only to its moral importance. It was decided in the affirmative by Dr. Carpenter ; and no physiologist appeared to raise any essential objection to his conclusions. A writer in the Westminster Review has, how-

ever, recently attempted to reverse his decision ; and thus the question is opened anew. Many also profess to agree with the reviewer ; and we therefore propose to examine his arguments,—this being the first and the sole professedly scientific and logical defence of the habitual use of alcohol, on physiological grounds, which has attracted our attention.

To use the words applied by the reviewer himself to Dr. Carpenter, "If we confine our polemics to statements advanced by him, we limit the sweep of argument, shorten the demand on the reader's patience, and avoid the necessity for the pitiable exposure of nonsense advanced by champions less able." "Let us find the vulnerable points in his argument, and we need not waste blows on those who fight under his banner."

It is unnecessary for our present purpose to give more than a rapid glance at Dr. Carpenter's conclusions. As a warrant for the high scientific reliability of his essay, it need only be said that he is one of the most distinguished of living physiologists ; that "he has never allied himself with any Temperance Society, so called"; that he has treated the subject as one of "purely *scientific* inquiry ; and has avoided mixing up any other considerations with those which presented themselves to him as a physiologist and a physician."

It was the condition imposed by the donor of the prize, that the Essay should answer the following qustions :—

"1. What are the effects, corporeal and mental, of alcoholic liquors on the healthy human system ?

"2. Does physiology or experience teach us that alcoholic liquors should form part of the ordinary sustenance of man, particularly under circumstances of exposure to severe labor, or to extremes of temperature ? Or, on the other hand, is there reason for believing that such use of them is not sanctioned by the principles of science or the results of practical observation ?

"3. Are there any special modifications of the bodily or mental condition of man, short of actual disease, in which the occasional or habitual use of alcoholic liquors may be necessary or beneficial ?

"4. Is the employment of alcoholic liquors necessary in the practice of medicine ? If so, in what diseases, or in what forms and stages of disease, is the use of them necessary or beneficial ?"

In reply to the first question, Dr. Carpenter shows that alcohol irritates and corrugates the healthy tissues, impedes the solidification of fibrine, produces changes in the red corpuscles of the blood, and causes a temporary exaltation of the nervous power. He also gives the phenomena and the pathology of alcoholic intoxication, and specifies the diseases produced by the excessive use of alcohol in the

nervous system, the alimentary canal, and special organs, besides general disorders of nutrition, diminished power of sustaining injuries from disease or accident, liability to various epidemic diseases, gout and rheumatism, and morbid affections of the heart and arteries. He also states, that "no life-insurance office will accept an insurance on an individual whose habits are known to be intemperate," experience having shown that such habits greatly shorten life, as, for instance, in the admitted fact that nearly three times as much sickness occurs among those soldiers serving in India who are not, as among those who are, members of temperance societies. From all these facts, Dr. Carpenter concludes that alcohol has an injurious effect upon the healthy human system.

In answer to the second question, the author shows that the power of enduring bodily and mental fatigue is diminished by alcoholic liquors; and that the power of enduring cold and heat, and of resisting morbific influences, is not increased by them, as is often asserted. They produce a temporary elevation of temperature, if taken into the stomach while fasting; but wholesome food containing some proportion of oleaginous elements generates still greater and far more permanent calorific effects. Dr. Carpenter concludes that "the habitual use of alcoholic liquors, in moderate, or even in small quantities, is not merely unnecessary for the maintenance of bodily and mental vigor, but is even unfavorable to the permanent enjoyment of health, though it may for a time *appear to contribute to it.*

Dr. Carpenter admits, in reply to the third question, that in some emergencies, and where a single great effort is to be made, alcohol may prove a stimulus capable of aiding in securing the result. That its use, however, is not the best method even in such cases, is shown to be the general fact; for the secondary injurious effects are experienced in these, as well as in other circumstances. It is admitted by Dr. Carpenter, that in certain exceptional cases of debility of the stomach, and in certain infirmities of old age, some benefit may be permanently derived from alcoholic drinks in small quantities; but it is impossible to decide *a priori* in favor of such a practice in any given case, and its adoption is a dangerous experiment. We remark, however, that he who, whether old or young, has a permanent debility of the stomach, cannot be regarded as possessing a "healthy human system."

The fourth question Dr. Carpenter answers in the affirmative; and specifies the morbid conditions in which alcoholic drinks may be administered *medicinally.* But as our present concern is with the use of alcohol in health, we here suspend our sketch of the Essay.

We now come to the article in the Westminster Review, which claims entirely to demolish Dr. Carpenter's Essay, and to prove that the habitual moderate use of alcohol is beneficial to the healthy human organism.

In a boastful exordium, the writer would at once prepare his readers to expect the speedy defeat of his antagonist. "We must," says he, "call in the aid of Logic, for we have to combat a fallacy; we must call in the aid of Science, for we have to cambat a scientific error." "We have to show that the fears of the moderate are idle." He also bespeaks good-will by the assurance that Dr. Carpenter's argument "staggered" him, "and for a time coerced his assent, until a more exact scrutiny revealed the *fons et origo* of Dr. Carpenter's error." Professing also to sympathize with the moral aspects of the temperance movement, he says: "Considered as a moral movement, it is difficult to speak of it in terms too laudatory." "We rescue a scientific question, we do not oppose the moral principles of the movement." Indeed, he virtually admits that even total abstinence is very well for the masses. "Nevertheless," he continues, "we shall restrict ourselves to the question of the use of alcohol by moderate and sensible persons. The readers of this Review [the Westminster] are obviously not of the poorer classes. Very few of them are likely to be among the intemperate; to them the teetotal arguments are impertinent."

We propose to institute a somewhat exact scrutiny of the reviewer's arguments, and to show that they are entirely fallacious. We shall endeavor to use only the weapons he has himself put into our hands; since, as he asserts of Dr. Carpenter, "it is with his own weapons he can be overthrown." But whoever makes such pretensions to science and logic prescribes to himself a most rigid adherence to facts and right reasoning; and, if found deficient in these cardinal points, he must expect precisely such treatment as science and logic may award to him.

The main object of the article under consideration is to prove the two propositions,—first, that alcohol is food; and secondly, that use is not abuse. All the other points raised are merely collateral to these; for if alcohol be food, the inference seems legitimate that its moderate use is beneficial to the healthy human organism, and that therefore abstinence from it is a "physiological error;" and if use is not abuse, and does not necessarily lead to it, the reviewer infers that the effects of an excessive, constitute no valid objection to a moderate use.

Before proceeding to establish the propositions just stated, however, the writer specifies the "two vulnerable points" of Dr. Carpenter; namely, "first, the confused conception he entertains of what strictly speaking, must be called *food;* and secondly, the fallacy of arguing from abuse to use."

The position of Dr. Carpenter to which the reviewer first objects is, that "alcohol is essentially poisonous." He admits that large doses of it will kill; but this does not prove it to be essentially poisonous, since oxygen is not so, and yet an over-dose of oxygen will kill. He does not, however, inform us in what the essentiality of a poison consists; and since his argument applies no less to arsenic and strychnine than to alcohol,—since these two substances also kill only when taken in an over-dose,—the inquiry need not at all detain us. In this connection he also sneers at the idea that the word *intoxication*, used to express the effects of alcohol, has been adduced to support its claim to be considered a poison; and remarks that "Philosophy shrugs its shoulders at such proof." We merely remark, that Dr. Carpenter does not adduce this fact as proof, but merely as affording a presumption in favor of the idea that alcohol is a poison, —a presumption which no physiologist will fail to appreciate.

Since our writer argues in favor of the "moderate" use alone of alcohol, it is quite important that our readers should know, at the outset, what his "moderate man" is. "The moderate man," says he, "drinks beer, or wine, at dinner, is not accustomed to anything approaching to intoxication, although he may occasionally take 'more than is good for him,'—which excess he sleeps off that night,—or pays for by a headache next morning, and hears no more of it." And he adds, "If positive science and daily experience warrant any decisive conclusions on this subject, they warrant the conclusion that to such a man alcohol is beneficial."

Now it strikes us as very singular that a writer, *professedly* scientific, should have inserted in a definition two so indefinite terms as "occasionally" and "accustomed." The former may mean once a year, or once or twice a week, according to the various interpretations of different readers; and surely the "benefit" derived from alcohol by the drinker, when "more than is good for him" is taken, must vary widely with the greater or less frequency of the indulgence. Moreover, we are not informed how often a man must experience "anything approaching intoxication," to be "accustomed" to it. "Strictly reasoning," the whole argument is vitiated by this looseness of expression. Waiving this radical defect, however, we find

that the position to be proved, when divested of all non-essentials, is this : Positive science and daily experience warrant the conclusion, that if a man drinks beer or wine at dinner, (it being understood, we suppose, that he gets a dinner every day,) yet is not accustomed to anything like intoxication, though he *occasionally* takes "more than is good for him," but sleeps off the effects that night, or merely feels them in the form of a headache next morning,—to him, though in perfect health, the use of alcohol in this way, and to this extent only, is *beneficial.* For, (1.) Alcohol is food ; and, (2.) Use (such as this) is not abuse, and does not necessarily lead to abuse.

The proposition that alcohol is beneficial where the drinker takes "more than is good" for him, we need not very seriously discuss. Just so often as that amount is taken, alcohol, we suppose, is not beneficial. The general proposition, therefore, that "to such a man alcohol is beneficial," is marred in the very making.

We omit the reviewer's comparison of the effect of alcohol on the constitution to that of a weight upon a spring, which at once rebounds when the weight is removed,—and to the effects of heat, and oxygen, and even of "mutton chops," upon the tissues,—as a mere fallacy ; since no real analogy exists in the things compared. Indeed, the reviewer himself "begs the reader not to lay too much stress on these illustrations, or to suppose the writer offers them as arguments." They, in fact, subserve no other purpose than to throw dust into the reader's eyes at the outset.

The following sentences are also adapted to give the reader a false impression. "Whatever air of paradox may hover round the assertion that alcohol is food, arises from the popular ideas of food, which are extremely vague and confused. To the popular mind it would be equally paradoxical to say, iron is food, salt is food, chalk is food; the popular idea of food being limited to substances which eaten by themselves 'nourish' and allay hunger.—*Nous avons changè tout cela.*" "No one would think of nourishing a pigeon on chalk, yet the celebrated experiments of M. Chossat prove that pigeons deprived of chalk die of inanition, first suffering from a complete softening of the bones."

Thus the idea is suggested that alcohol, like iron, salt, and chalk, is essential for the nourishment of the tissues. But iron is indispensable, because it is always naturally present in the blood and some of the tissues ; salt normally enters into the composition of all the fluids and tissues of the body ; and chalk (carbonate of lime) is necessary to the development and nourishment of bone. Alcohol, on the other

hand, is not essential to the development of any part of the body ; and, still more, not a particle of alcohol can by any means be converted into any tissue whatever. There is, therefore, no physiological analogy in the things compared, and the illustration can only mislead the reader. On the contrary, if iron, salt, and chalk are food because they enter as elements into the normal composition of different tissues, then alcohol is not food, as it enters not thus into a single tissue.

But we now proceed to examine the reviewer's arguments in support of his principal proposition, that "alcohol is food." It occurs to us as a striking fact, that in their whole course he does not quote a single physiologist in opposition to Dr. Carpenter, except in the use of two or three unimportant extracts from Moleschott's work, but relies on the testimony of chemists alone. Liebig is the authority almost exclusively cited. The accuracy of his opinions on the physiological bearings of this subject will be tested as we proceed.

The reader will the more clearly perceive how inconsequent and fallacious are our reviewer's conclusions, if it be remembered that he attempts to show, first, that "food is force," secondly, that "alcohol is force," and therefore, thirdly, that "alcohol must necessarily be food." We shall examine his arguments in proof of each of these propositions.

"Science teaches us that food has to be considered under three aspects :--1. It repairs the waste of tissue consequent on the wear and tear of life ; 2. It furnishes fuel for respiration, the main source of animal heat ; 3. Under both these heads it is the generator of force."

Now, though the first two of these assertions just quoted are physiologically correct, the three together do not include all the physiological relations of food, and the last is untrue. Certain elements of our food repair the waste of the tissues, and are hence termed nutritious or plastic elements. These are albumen, caseine, fibrine, etc., and these alone are properly called *nourishment*. Other elements do not at all repair the tissues, but being acted upon, after they are digested and absorbed into the blood, by the oxygen derived from respiration, they are literally burned up, and thus, producing heat, aid in maintaining the normal temperature of the body. Hence they have been termed "fuel for respiration," "respiratory material," and, better still, "the calorific elements of our food." They are starch, sugar, gum, and dextrine. The fat in our food, too, is in great part merely calorific ; though it is also nourishment so far as it contributes to the development or the repair of the adipose tissue.

But the author has entirely overlooked and ignored the residual elements of our food, which traverse the alimentary canal without undergoing any change whatever.

As a specimen of our reviewer's scientific accuracy in the use of terms, we call attention to the fact, that in the passage just quoted he states that both the plastic and the calorific elements of food *generate* force ; a little farther on he says, "all food is ultimately *translated* into force ;" and still farther, that alcohol, which he asserts is food, *evolves* force ; and again, that Dr. Carpenter knows that alcohol "*gives* force." Now these four terms are very far from being identical in meaning ; and no two of them are so. Which, then, expresses the writer's actual meaning? But we need not lose time in attempting to settle this question, since it will appear that neither of the words used is at all consistent with the facts. Moreover, in regard to the kind of force, he says at first, "into *motive* force all food is ultimately translated." Aftsrwards he says, alcohol (being food) "is translated into *nerve* force ;" and again, "into nerve force or some *substitute* for nerve force." Are nerve force and motive force, then, identical? and is there any such thing as a substitute for nerve force? Our scientific champion evidently entertains conceptions somewhat "confused" of what, "strictly speaking must be called" nerve and motive force.

But next let us adduce the facts which decide whether any, and if so which, of the elements of our food are generators of force. And, first, the *residual* elements, overlooked by the reviewer, are surely not generators of, nor translated into, force of any description ; though they constitute a considerable and an indispensable part of the food of all the higher animals. To this class belong woody fibre, resinous matters, the envelopes of fruits, and the husks of seeds (as the bran of wheat, &c.) ; all of which pass unchanged through the alimentary canal. The precise uses of the residual elements of food are explained in every extended treatise on physiology, and need not detain us here. Nor, secondly, are the *calorific* elements of food translated into force. They are converted into carbonic acid gas and water by the action of oxygen, as already explained ; and this union of oxygen with their elements, being chemically a true combustion, produces heat, precisely as does the union of the oxygen of the atmosphere with the carbon and hydrogen of coal when it is burned in a grate. And this is all. The calorific elements of food are finally "translated into" carbonic acid and water, and thus produce heat. But heat is not motive force, nor nerve force, nor a substitute for the

latter. It is merely a physical agent, while both the forces just named are vital forces. The idea that mere heat can be converted into any phase of vital force is preposterous ; and the reviewer neither attempts to prove, nor even insinuates, anything of the kind. Nor, thirdly, can it be said with accuracy that the *plastic* elements of food are translated into force ; though if they are so, the fact is of no consequence to the reviewer, since he admits that alcohol does not belong to this class of elements. The simple fact is, that the plastic or nutritive elements of food are converted into the various tissues, and that each of the tissues manifests its own peculiar phase of vital force,—the muscles, contractile or motive force ; the nervous centres, nervous forces, &c. The tissues are excited to the manifestation of vital force, each by its appropriate stimulus ; but the tissues themselves are in no case "translated into" force. They merely constitute the organization, the peculiar mechanism, by means of which vital force is manifested, as does the engine the mechanism by which physical force is manifested ; and in the former, as well as in the latter case, the wear and tear are proportioned to the amount of activity, or of force developed. We perceive, then, that precisely the reverse of our reviewer's cardinal proposition is rigidly true ; namely, that no part of our food is translated into force. It follows, therefore, that, if alcohol is translated into vital force, it cannot be food ; and that, if it actually is respiratory food, it cannot be translated into vital force, but can only produce heat by its combustion in the blood.

The reviewer, supposing the reader to be satisfied that all food is force, next announces that "Alcohol is Force." He, however, merely asserts in support of this proposition, that "Dr. Carpenter knows better than most people that alcohol gives force." We wait, however, for the admission from Dr. Carpenter himself. Every one knows that alcohol, taken in a sufficient quantity, *excites* force ; but this is a very different thing from *giving* it. The spur on the rider's heel excites force, but does not give it. Hay and grain, moreover, do not excite the force of the horse in this way ; and none would contend that the spur is a part of the animal's food.

But we now come to the most remarkable portion of the article under consideration,—at least so far as its logic is concerned : "The reader has already outrun our conclusion, that if food is force, and alcohol is force, alcohol must necessarily be food." Since the high character of the Westminster Review precludes the idea that this syllogism was intended as a transparent joke, we will crave the

reader's patience while we illustrate its singular capabilities. "Food is force; and alcohol is force; therefore alcohol must be food." By this logical formula we may prove that any two things possessing a single property in common must be the same generically and specifically. Thus: "Man is an animal, and a horse is an animal; therefore a horse is a man." And again: "Chalk is white, and snow is white; therefore snow is chalk" But we are mainly interested in the number and variety of its applications to the subject under consideration. Indeed, it proves so much as entirely to demolish our logician's favorite conclusion First we have, "*Alcohol is food*," according to the original formula. But, 2. "Alcohol is force, and food is force; therefore *food is alcohol*." 3. "Food is force, and arsenic is force;* therefore *arsenic is food*." 4. "Alcohol is force, and arsenic is force; therefore *arsenic is alcohol*." But enough of such "calling in the aid of logic to combat a fallacy." Logic "shrugs her shoulders" at such reasoning as this; and we proceed to examine the curious structure of the "links of the chain of demonstration" of the proposition that "alcohol is food."

The reviewer first cites a passage from Dr. Carpenter's treatise on Physiology, which, he says, is "addressed to men of science," and asserts that it contradicts his Essay on the effects of alcohol, thus placing Dr. Carpenter, as he assumes, in the very ungracious position of "himself maintaining that alcohol is food, not poison; unless Dr. Carpenter retracts his own language, unless he withholds the name of food from all substances not forming tissue."

We hold the insinuation that Dr. Carpenter has spoken the truth, when obliged to do so, in a work addressed to men of science, while he intentionally suppresses or perverts it in a more popular essay, to be simply contemptible. Our reviewer "knows better than most people," that Dr. Carpenter's scientific reputation is as much concerned in his work on the physiological effects of alcohol, as it is in his work on physiology in general. He is also doubtless aware, that, if there is an apparent contradiction in these two works, candor requires that he should regard the Essay on this special subject as embodying Dr. Carpenter's more mature views of the effects of alcohol, and those which he is prepared to defend. But a fair interpretation does not suggest to the reader even an apparent contradiction. On the page containing the passage quoted by the reviewer, Dr. Carpen-

* The reviewer states that arsenic "gives to both horses and men increased beauty, and an enviable rejuvenescence, when taken regularly in minute doses."

ter classifies "the organic compounds *usually employed as food* by man," under four heads,—the Saccharine, Oleaginous, Albuminous, and Gelatinous; and, speaking of the Saccharine, has the passage alluded to: "To this group belong starch, gum, woody fibre, and the cellulose of plants, which closely resemble each other in the proportion of their elements, and which may be converted into sugar by chemical processes of a simple kind, whilst *alcohol*, which is derived from sugar by the process of fermentation, has a *composition* which rather connects it with the next group."* But Dr. Carpenter is not here deciding the question what is food, physiologically considered. He is merely classifying the "compounds *usually employed* as food by man;" and after specifying starch, gum, woody fibre, and cellulose as food, he adds that alcohol is unlike these compounds both in its origin and its chemical composition, and in the latter respect is more nearly allied to the Oleaginous group. He does not intend to say here that alcohol is food, or is not food, physiologically considered. It is often taken with food by man; and he means to say of it precisely what he does say, and nothing more,—though certainly his remark suggests the inference that it cannot be properly classed with the elements of our food. In his other work, however, he discusses that question at length; and decides that, physiologically speaking, alcohol is not food. This "link of the chain of demonstration" therefore fails entirely.

The reviewer next quotes Liebig: "The amount of nourishment required by an animal for its support must be in a direct ratio with the quantity of oxygen taken into the system;" and adds; "But under the term nourishment our readers have learned to include alcohol, which nourishes as fuel." Liebig is also quoted and commented upon as follows:—

"'Of all respiratory [calorific] matters, alcohol acts most rapidly,' [i. e. is most rapidly consumed,] says Liebig; and in this rapidity there is great virtue, for starch, very good food in itself, requires some hours before it becomes soluble in the alimentary canal of the bread-eater, so as to enter the blood, and there serve the purposes of respiration. Both starch and alcohol are burned, and in burning throw out force; but when the demand for force is urgent, the food which most rapidly creates it is the most valuable."

It is here proper to inform the reader, that alcohol is capable of producing three entirely different effects, in proportion to the amount taken into the stomach. If a very small quantity, well diluted, be taken when the stomach is nearly empty, (one drachm, perhaps, in

* Principles of Human Physiology, Fifth American Edition, p. 376.

the case of most persons,) it is very rapidly burned up by combination in the blood with oxygen, and thus produces heat, it being converted into carbonic-acid gas and water. Only under these circumstances is Liebig's assertion true. If a larger dose be taken, so as to be felt at all in the head, it has a stimulant, and not a calorific effect. In this case it *excites* force ; in the other, it *produces* heat merely. In a still larger dose, alcohol becomes a narcotic, and produces the stupor characteristic of the narcotic poisons. In this case, it paralyzes force, and at the same time, instead of proving calorific, perceptibly diminishes the heat of the body. It is therefore only when alcohol ceases to be alcohol, or is burned up, that it is calorific ; so long as it remains in the blood unchanged into carbonic-acid and water, and manifests its real character, it is either stimulant or narcotic, according to the quantity taken.

These facts are ignored by the reviewer ; and from Liebig's unqualified assertion that alcohol is rapidly burned, he deduces the inconsequent conclusion that it is better food than starch and sugar, after repeating the groundless assertion that starch and sugar in being burned throw out force. To make the last sentence quoted from Liebig even theoretically true, we must read it thus : "Both starch and alcohol are burned, and in burning throw out heat ; but when the demand for heat is urgent, alcohol, as creating it the most rapidly, is the most valuable." Of course, in all other circumstances, starch is the most valuable. Practically, however, the sentence, even as altered, is not true. For, in order to prove merely calorific, alcohol must be taken in very small quantities ; and it is so rapidly burned up, that the small doses must be almost incessantly repeated. Even thus, if we may credit our reviewer, we cannot long keep up the supply ; for he says, "Alcohol is not, and cannot be, continually present in the blood ;" and adds, that, if this were possible, it would produce a fatal effect. Not very reliable, valuable, or safe food this, we think ! Starch and sugar are far better ; since they may always be kept on hand in the blood, and never produce any dangerous effects. If it require "some hours" for the last mentioned elements to enter the blood of the bread-eater, he has only to take another meal the same number of hours (as we all do) before the proceeds of the preceding one are consumed, and he will always have a sufficient amount of fuel on hand. Alcohol, therefore, if it is food at all, is so because, like starch and sugar, it is a producer of heat, and not because it is force, or an exciter of force. So far as it affects force, it is a stimulant or a narcotic, and in no possible sense food.

But the reader may ask, What is the physiological objection to recognizing alcohol as food, since, like the amylaceous and saccharine elements of food, it is, in the circumstances mentioned, a producer of heat? We answer, that the *characteristic* physiological effects of alcohol are its stimulant and narcotic powers; it is calorific only incidentally, and when taken in doses not sufficient to manifest its essential character. In its calorific capacity, we have seen, too, it is utterly incapable of sustaining that equable temperature of the organism required for the highest development of the vital force. We have also seen that, even were it a valuable calorific element, this fact does not really concern us in our present argument, since "the moderate man" uses alcohol in stimulant doses at least, as the reviewer admits, and thus the idea of its being food, like starch and sugar, is entirely precluded. Moreover, if the reviewer adopts the proposition that everything is food that is calorific, it is one altogether too pregnant for his purpose. If alcohol is food merely because it is calorific in certain circumstances, so are ether, and many of the essential oils; and the reviewer, if consistent, must also add these to his bill of fare. Physiologically considered, then, alcohol is a stimulant and a narcotic, and is not food.

Having previously asserted without the least warrant, as we have seen, that alcohol is nourishment, the reviewer next gathers strength to make the extraordinary statement, that "the *digestibility* of alcohol (so to speak) surpasses that of any other aliment; it requires less elaboration to fit it for its ultimate purpose, namely, its translation into nervous food." Hitherto we have been told that all food (and of course alcohol) is converted into motive force. But this discrepancy has already been alluded to; and whether the reviewer is ignorant of the difference between motive force and nerve force, or is here unfairly substituting the latter term for the former, the reader may decide. But what is "digestibility (so to speak)"? This is a somewhat ambiguous expression for a scientific writer. Digestibility has reference to the ease and rapidity with which food is digested; but alcohol is not digested at all. It is absorbed into the blood from the stomach and the lower portions of the alimentary canal, without undergoing any previous change. We therefore make no further comments on the preceding quotation.

The third link of the chain of demonstration is thus constructed: "'Alcohol stands high as a respiratory material. Its use enables us to dispense with starch and sugar in our food.' (Liebig.) Is more wanted," demands the reviewer, "to show that alcohol is food?"

Besides, the reviewer informs us, that the members of the Peace Congress at Frankfort ate an enormous amount of pudding, because they drank no wine. For "wine replaces pudding," and "pudding replaces wine;" but "poisons have not the property of replacing wholesome food." Therefore alcohol (wine* rather) is food. "Wine replaces pudding," which is doubtless food; and "therefore wine is food." But pudding also replaces wine, which is doubtless a stimulant; and therefore, by the same reasoning, pudding is a stimulant!

But let us examine these propositions in detail. And, first, has Liebig or any one else known an alcohol-drinker entirely to dispense with the amylaceous and saccharine elements in his food? It would certainly require more than a "moderate use" of alcohol to replace all of these elements. But the reviewer also says, in another connection, that alcohol "cannot be continually present in the blood." What would then ensue, if starch and sugar were dispensed with, when the alcohol failed? Death, we suppose, from the entire loss of animal heat. How then can the reviewer say, from Liebig, that alcohol "stands high" as a respiratory material? According to his own statement, it is superior to starch and sugar only in the fact of burning more rapidly; a quality which has been shown to render it unfit for calorific purposes, in an organism where a steady and uniform temperature is demanded. We should add, however, that we have quoted the reviewer's assertion that "alcohol cannot be constantly present in the blood," only in order to allow him to refute himself; the fact being, that it can be kept constantly present in the blood during an indefinite period, if the doses be often enough repeated. So long as a person exhales the odor of alcohol in his breath, he is exhaling alcohol from the blood as it circulates through the lungs, and so long it is of course present in the blood; and every one knows that some persons exhale alcohol in every expiration for weeks at a time. Our writer, however, asserts that, if the blood could be kept constantly charged with alcohol, it would produce fatal effects; and this assertion with some qualification is true. But, again to reverse his argument, "it is not the property" of wholesome food to produce fatal effects merely from being constantly present in the blood; therefore alcohol cannot be food. Besides, if alcohol is food because it "replaces" food, in some sense arsenic is also food; for, as the author asserts, a given amount of food with "regular doses"

* Wine contains only from nine to about twenty-six per cent. of alcohol; the remainder being water, sugar, acids, &c.

of arsenic added confers both on horses and men increased fulness of form and vigor, while the food alone would not have this effect. The reader must not, however, be surprised at this conclusion; since we have previously shown that arsenic is food by another formula which the reviewer has afforded us.

Our reviewer continues his reasoning as follows :—

"If we reflect that alcohol is respiratory food, and that the organism needs five times as much respiratory food as plastic food, we may be able to explain the notorious fact of hard drinkers scarcely taking any 'food' (except their drink), and yet, in spite of this absence of 'food,' they manage to live on through many years, performing all their functions, not very vigorously it may be, not as highly reputable citizens, but nevertheless *living*, and upon a quantity of 'food' so small that life could not be sustained a month on such a quantity, did they not call in the aid of a poison. This paradox it was incumbent on Dr. Carpenter to clear up."

Then the writer quotes Dr. Carpenter's assertion, that mere alcohol does not contribute to the renovation of muscular tissue, and his reasons also for believing that it cannot be converted into nerve tissue. In respect to these points, however, he accuses Dr. Carpenter of "confusion," and objects that he "limits" nutrition to the tissue-forming process. So, we reply, does every other physiologist; though he says, "no one knows better than Dr. Carpenter the error of such a limitation." Having thus a second time groundlessly alleged a perversion of the facts, his audacity culminates in the assertion, that Dr. Carpenter "shifts a question of force to one of tissue." We will only assert, on the contrary, that the reviewer himself has shifted a question of *tissue* to one of *force*. "The point in debate is not," he says, "whether alcohol can be converted into nervous *tissue* (which may or may not be the case), but whether it can be converted into nervous *force*." Who raises such a question as this? Its palpable absurdity does not admit of its being entertained by a physiologist for a moment. Surely, if such a question can be raised, it was incumbent on the reviewer to answer it in the affirmative, if possible, earlier in the progress of his article. He has, however, so often asserted that alcohol is "force," is "motive force," &c., that he now seems to think the reader will accept the implication on his part that alcohol may be "converted into nervous force," as a proof that it is really thus converted. But the intelligent reader, who has become accustomed to our writer's style of logic, requires no caution in this respect; and we need only to notice the statement in regard to hard drinkers living for years upon nourishment insufficient to sustain them a month without their drink.

If this be asserted of hard drinkers of alcohol merely (with water), it is unqualifiedly untrue. If it were true, however, it would be logically so much the worse for our writer; since, if alcohol is "food" and "better than starch and sugar," is a "nourisher of force," and is "converted into nerve force," surely hard drinkers, who consume so much more than others of this multipotent substance, ought to live "vigorously," and as the most "reputable citizens." If alcohol is converted into nerve force, such people ought surely to develop the highest functions of the nervous system,—the intellectual and the moral faculties,—in a superior degree; which is generally thought not to be the case with hard drinkers. "This paradox it was incumbent on" our reviewer "to clear up." If what he has already affirmed of alcohol were true, it would be an unpardonable sin to restrict a man who can pay for large potations to a "moderate" use of it. On the contrary, every one, by keeping his blood charged with it to the utmost extent, might elevate his moral and his intellectual nature to that angelic height, "a little lower" than which he was at first created. And for a man to be addicted to such slow food as starch and sugar,—in a word, to "eat pudding,"—would, on the other hand, be the seal of abject and perpetual barbarism. But the reviewer proceeds to say also, that alcohol offers itself to oxygen and is burned, and thus produces nerve force; while it at the same time saves nerve tissue. Does not the reviewer know that the mere burning of alcohol in the blood produces heat alone, just as does the combustion of starch and sugar? and that nerve force is developed by nerve tissue alone, and at the expense (wear and tear) of the latter? If not, we tender our regrets. But his enthusiasm comes to its climax farther on, in the assertion that alcohol is also "the equivalent of blood." On this pinnacle of absurdity we leave him, with our best wishes for a safe descent.

Now in regard to hard drinkers, there are those who are constantly stupefied with alcohol, and who therefore wear out their tissues very slowly, and require but little nourishment to repair the waste. This class is formed of beer and porter drinkers more especially; such persons requiring less food because malt-liquors contain a small amount of nourishment, in the form of albuminous matter. Liebig, however, says that "as much flour or meal as can lie on the point of a table-knife is *more* nutritious than five measures (about eight or ten quarts) of the best Bavarian beer." Our reviewer remarks upon this quotation, that the proposition is "absurd," that "a pinch of meal has greater *sustaining* power than a *quart* of beer." Liebig,

however, says, "We can prove the above statement with mathematical certainty." The reviewer also asserts, that "it is no answer to say that the force is temporary. All force is temporary." Indeed! and so is all life. He afterwards tells us, in like manner, "All excitement is temporary;" but subsequently claims in favor of alcohol that, in small doses, it is "*only a temporary* stimulus." By what term might we appropriately designate this style of subterfuge?

But there is another class of excessive drinkers who are constantly stimulated, instead of being stupefied, by the alcohol they consume; and who are therefore still active, developing motive force and nerve force at the expense of their muscular and nervous tissues. Such persons need nourishment in proportion to the waste; and in many cases the quantity is decidedly increased, instead of being diminished, by their drinking. This explanation is virtually admitted by the reviewer himself, while discussing another topic, where he says, in a style uncommonly subdued: "We think that, although the result of the stimulus *may* be a greater consumption of tissue in a given time than would have taken place without it, yet it is demonstrable that real increase of strength *is* given; that alcohol is positive nutriment, or else it could not replace nutriment, nor could it enable drunkards to subsist." Dr. Carpenter thinks precisely the reverse, and gives his reasons; and until the reviewer can offer some valid ground for his opinion, we shall adhere to Dr. Carpenter's opinion (and our own) on this subject.

Here end our comments upon the "links of the chain of demonstration;" and we believe the reader will now agree with us, that the "chain" is merely a "rope of sand," and that Physiology "shrugs her shoulder" in general, and in particular, at the "conception" that "alcohol is food." On the other hand, Dr. Carpenter has given solid reasons for regarding alcohol as essentially poisonous in its physiological effects; and with him we may very safely leave this question, till a more doughty champion enters the lists against him.

Our reviewer, however, coolly assuming to have proved that "alcohol is food," next proceeds to show "how and why it is food." It is scarcely necessary to follow him through his argument on this topic; and yet some of his illustrations are too characteristic to be omitted. "If in drinking a glass of brandy," says he, "you save an ounce of beef, it is because the same amount of force can be evolved from the brandy as from the beef." But the reader now knows that the glass of brandy, if it evolves force (as the beef is assumed to do), does not save the beef; since it thus wastes the tissue, and the beef

is just so much the more required to repair the tissue. His idea that alcohol offers itself to oxygen and is consumed, and thus saves tissue, though it nevertheless develops force, next follows : but it has been refuted on a preceding page. The great defect here, as elsewhere, is, that the reviewer makes no distinction between the calorific and the stimulant or exciting effects of alcohol ; but persists in implying that the mere burning of it in the blood produces force, instead of heat merely. The reader now knows, that whenever alcohol does offer itself to oxygen, it is merely calorific ; and that when, remaining unconsumed in the blood, it excites force, it produces a corresponding waste of tissue.

As if cherishing some misgiving, after all, in regard to his demonstration that alcohol is food, and not poison, the writer dismisses the last-mentioned topic with some very striking remarks on poisons in general ; from which we may infer that, on the whole, it is of no consequence if alcohol is a poison. He says that the human organism possesses a marvellous "aptitude in resisting and making light of poisons," and discourses thus :—

"We are all in a private way descendants of Mithridates. The water we drink, the tea we drink, the medicines we take, and the pickles—especially the pickles!—we eat, are all so many poisons. Death itself is but the consummation of a system of slow poisoning. There is tea, even when unadulterated, notoriously a slow poison ; coffee, a slow poison ; tobacco, a slow poison ; carbonic acid in the air of churches, theatres, and assemblies, a slow poison ; beer, slow poison ; wine, accelerated poison ; brandy, rapid poison."

A sufficient reply to the above is afforded by the reviewer's previous assertion, that, if alcohol were continually in the circulating current, the effect would be fatal. But he says, incorrectly, "Alcohol is not, and cannot be, constantly present in the blood ;" and, "Its temporary presence is only a temporary disturbance, and this disturbance is a stimulus." We reply, with his own logic, "All disturbance is temporary," and there is no substance whose presence in the blood is not "temporary." But we have seen that alcohol, if often taken, may be kept present in the blood for a long time ; and in numerous instances it has been found after death in the ventricles of the brain, and has burned with its characteristic blue flame. It has also frequently been extracted from the substance of the brain, when it could not be found in the ventricle or in any other part of the body. But this is a mere "temporary" presence.

We have, however, in the preceding quotation, arrived at the first distinct admission that alcohol is a stimulant ("stimulus"); which is

in fact the only property of alcohol which makes its habitual use intensely dangerous, and upon which the whole doctrine of total abstinence rests. It is not necessary to show that alcohol is a poison; it is enough to show that it is a *peculiar stimulant*, and then to indicate in what its peculiarities consist. So long as it is merely calorific, nobody is concerned for its effects. The reviewer himself asserts, that since "life is only possible under incessant stimulus," there is no objection to alcohol unless "there is something peculiar in the alcoholic stimulus, which demarcates it from all others;" but he also admits that alcohol is a peculiar stimulus, and thus nullifies all that he has said of the other stimuli as essential. He says also, that this peculiarity of alcohol "justifies, in some degree, its bad reputation," and is one "upon which all the mischief of intoxication depends, one which causes all the miseries so feelingly laid to its door." (All this is affirmed, by implication, of *food!*) "And what," he continues, "is this peculiarity? Nothing less than the fascination of its virtue, the potency of its effect! Were it less alluring, it would not lure to excess; were it less potent, it would not leap up into such flames of fiery exaltation. In its virtue lies its crime." Observe, "virtue" here means "potency of effect." He next suggests that alcohol should be used as is a razor; and says, that "while we frighten Tommy with a rehearsal of the terrible consequences which may ensue if he venture to touch the razor, we cease the precaution when our juvenile friend emerges from jackets to the dignity of shaving," and "the razor is then placed in his hands with full reliance that he will not cut himself—often." Or, to state the idea more distinctly: We should frighten children and people of the "poorer classes" from using alcohol at all, even in a "beneficial," "moderate" way; but we should put it into the hands of "sensible persons" (the "readers of the Westminster Review") for their habitual use, "once or twice a day," with full reliance that they will not become intoxicated by it —often!

It would have been pertinent had the reviewer explained why alcohol is a peculiar stimulant. It is so because it has a peculiar attraction for the substance of the brain, and therefore commits it ravages first of all upon this organ, and consequently upon the intellectual and moral faculties. This fact is confirmed by the examination of animals killed by alcohol. Indeed, the reviewer himself admits (though for a very different purpose) "the great affinity and the *selective eagerness* with which it acts on the nervous tissue."

Professor Johnston, another chemist, is next quoted to prove that

the stimulus of alcohol is not in itself injurious, but beneficial, though the reviewer adds, "Too much of it we know to be injurious." It would have been at least kind, had he, after portraying the dangers from its use, informed the reader how much is just enough. What would we think of a professedly scientific medical writer, who should urge the use, in some disease, of a drug he admitted to be dangerous in excess, without giving us any idea of the dose in which it should be administered.

The reviewer also quotes from Professor Johnston the absurd idea, first propounded, we think, by Liebig, that alcohol, coffee, tea, &c., "diminish the waste of tissue," though an equal amount of force is developed. It is high time this absurdity were given up, even by chemists. Physiology, except as manufactured for us in the laboratory, entirely repudiates such a chimera. Our writer also adopts the saying of the "poets," that wine is "the milk of the old," and then quotes Liebig to the same effect. While we cherish the profoundest respect for Liebig as an analytical chemist, we must admit that there is a certain propriety in associating so imaginative a writer on this subject with the poets. We however by no means deny that wine is often beneficial to the aged, or to any whose weak digestive powers require its stimulating effects. We do not ourselves hesitate to prescribe alcoholic drinks when we think them needful. But we have nothing here to do with alcohol as a medicine ; and therefore the authorities just referred to have no bearing on the question before us. We find, however, an admission on a subsequent page, which seems singular as coming from a writer who maintains that the use of alcohol "once or twice a day" is "positively beneficial" to a man in health. If, says he, we are "living under perfectly healthy conditions, with hereditary strength of organism, with abundance of excellent food, with stomachs equipped for efficient exercise,—in such a case alcohol is certainly of *no use*." We are happy to find the reviewer at last strictly correct, on this one point. But he adds : "In such a case alcohol in moderation can do no injury,—because of the elasticity of the organism,—and while it does no injury, it produces pleasure." The "potency" and the "fascination" of alcohol have been portrayed in dithyrambic style ; we have just been told that in perfect health it is not beneficial (is of "no use") ; but it is added, that so powerful an agent in such a case is also not injurious. That is, to one in health it is neither injurious nor beneficial, though so powerful. Yet we know that it is often beneficial in disease ; and we should expect that it would, like other remedies, produce some

effect at any rate, and probably an injurious one, in health. Dr. Carpenter has shown that this is the fact. But alcohol "produces pleasure." We should say "excitement," instead of pleasure; but it is very true that some make pleasure to consist in excitement. Yet we have seen that in the fact that alcohol is a *peculiar stimulant* lies all the danger. Is it, however, pleasure to be excited to-day, and "sleep it off" to-night, or only "pay for it by a headache to-morrow?" Let the reader say for himself.

The closing pages of the article under consideration are devoted to the reviewer's second proposition,—"Use is not abuse;" or, "There is no *necessary* physiological connection between moderation and excess." Of course there is no physiological necessity or reason why a healthy person should take alcohol for the first time; there is equally none for taking it the second time, or the ten-thousandth. But our writer "knows better than most people" that it is the physiological fact that moderation tends to excess,—that use tends to abuse; for he admits that "He who drinks will drink again, and moderation, we know, oils the hinges of the gate leading to excess. No one doubts the danger. The only absolute preventive against taking too much is to take none." "Is anything more wanted" to show that, if excess does not necessarily follow moderation, there is great danger that it will? And this danger, the reviewer himself admits, can be avoided only by abstinence. We must therefore regard the reviewer as "himself maintaining" that total abstinence rests on a physiological basis, "unless he retracts his own language." He however adds: "Stimulus [i. e. alcohol] is daily taken by thousands and thousands who do not increase the amount as they advance in life;" to which we reply, that there are millions who do increase the quantity as they advance in life. The reason is simply, that, as the organism becomes accustomed to the stimulus, a larger quantity is required to produce a given stimulating effect.

Finally, the reviewer, in taking a retrospect of his labors, states five propositions which must be proved to establish Total Abstinence as a scientific theory; but which, he says, he has entirely disproved. These we need not repeat, since with his method of proof the reader is already familiar. On the other hand, we assert that Total Abstinence may be defended upon the basis of the two following propositions alone:—1. Alcohol does not exert a beneficial effect upon the healthy human organism; and, 2. Use tends to abuse. Both these propositions have, moreover, been established by Dr. Carpenter; and the reviewer himself, as we have seen, has virtually admitted them.

We may therefore retort upon him his remark respecting Dr. Carpenter: "We have only to disentangle the confusion" of his article, "and we find him an ally."

In taking our leave of the reviewer, we merely add, that we have found that his "vulnerable points" constitute the rule, and not the exception; we have "called in the aid of logic to combat fallacies," and of "science to combat scientific errors;" and have made it apparent that he has very "confused conceptions of what, strictly speaking, must be called food." We have also exposed the absurdity of divers propositions, at which logic, physiology, and fact have "shrugged their shoulders" in turn. Finally, we have "rescued a scientific question;" and have shown, we think, that he has utterly failed to demonstrate the "Physiological Errors of Teetotalism." We have detained the reader much longer than we would have desired. But it was necessary that our wily opponent should be closely followed through the windings of his errant logic, lest he might adroitly skulk for shelter behind an inconsequent conclusion. We must, however, in justice, admit that he has laid the manufacturers and venders of alcoholic drinks under no slight obligation; and if it should be deemed expedient to publish his article in a separate form, we suggest that it be entitled, "An Essay on the Effects of Alcohol; for Distribution by Brewers and Distillers."

Before finally dismissing this subject, we would enter our protest against the carelessness of remark—if it deserve no severer epithet in which some medical men are accustomed to indulge in regard to the physiological effects of the habitual use of alcohol. No writer but a thorough physiologist can do justice to this subject. Yet we often hear announced, in a magisterial style, opinions on this subject which are utterly opposed to facts and to physiology. When a physician sets the example of the daily use of alcoholic drinks, and assigns as the reason, that he, though in health, requires the beneficial physiological effects of alcohol, it really becomes a matter of charity, if we suppose him sincere, to instruct him that no *valid* physiological reason has been or can be given for the notion that the habitual use of alcohol is beneficial to a person in health. We have no quarrel with him who drinks habitually; that is not our affair. But let him not impress Physiology to screen him in the practice. She abhors such service. Let him not "drink on pretexts;" but frankly admit that he drinks merely for the excitement alcohol produces; that he incurs a risk in so doing, hoping to avoid the so frequent consequences; but that he would not advise another to do the

same, lest he might yield to the temptation. This is fair and honorable ; and this is the only ground that medical men who habitually drink alcoholic liquors can take, without impeaching either their knowledge or their candor. We confess ourselves indignant, when we see Physiology distorted and mutilated till her most intimate disciples can scarcely recognize her, and then debased to do battle against a cause emphatically her own ; and we have no excuse for those who, whether prompted by ignorance or by thie own interests, thus lay unholy hands upon her. In her behalf would we address to all such the blended supplication and command of the Sibyl,—

"Procul, O, procul este, profani!"

PROCEEDINGS OF SOCIETIES.

NEW YORK MEDICO-CHIRURGICAL SOCIETY.

Reported for the Monthly by J. O. BRONSON, M.D., Secretary.

May 27. The President, Dr. Henry G. Cox, in the chair.

Dr. Uhl presented before the Society a stomach, showing the effect of adulterated liquors. The whole mucous surface exhibited a remarkably intense redness, with no disorganization of the membranes. The woman from whom it was removed had been an habitual drunkard for twenty years. For the last few weeks of her life she had been more intemperate, if possible, than formerly, and finally in a drunken fit had died. No other organs were found diseased, with the exception of the kidneys—they being a little injected. In presenting this specimen the gentleman asked the question, from what cause do deaths of this kind result?

Dr. E. H. Parker was of the opinion that death resulted from nervous exhaustion.

Dr. Cox expressed coincidence in that opinion, and in noticing the specimen stated that it did not exhibit the appearance of a stomach of one who had been a continual drinker ; but from its intense redness he should be led to believe that the person had taken some poisonous fluid—as was probable, since the woman was of such a character as would be likely to drink adulterated liquors.

Dr. Carnochan called attention to a tumor, which he had that day removed from a woman 22 years of age. Some sixteen or seventeen years ago, the tumor was first noticed upon the mam-

mary gland, and being quite small, but little attention was excited. It continued to increase slowly, attended with but slight pain, until it attained its present size of a goose's egg. The patient presented no cachectic appearance. The integument over the tumor wore a bluish aspect, but was not adherent to it. The tumor presented a sense of fluctuation, resembling an encephaloid body. After carefully considering the case, however. Dr. C. decided, from the definite character of its growth—the length of time in development—the non-sufficiency of fluctuation for encephaloid—that it was a benign growth, and would not be renewed if removed, and consequently proceeded to dissect it from its position. The tumor, upon being divided, presented to the eye the appearance of malignity.

Dr. E. H. Parker, in noticing the specimen, spoke of the malignant appearance, especially of the central portion, but this he thought might be due to pressure; and, upon inquiry of Dr. Carnochan, learning that the patient had been in the habit of wearing tight corsets, he would attribute it to that cause, inasmuch as the great length of time it had been growing, together with the other symptoms, would most certainly guaranty the surgeon in his diagnosis and prognosis. Dr. Parker related a case occurring in his practice some seven years ago, wherein he removed a tumor from the breast of a woman, which had existed five years, presenting many of the appearances of the specimen exhibited, especially in the centre. The tumor had been subjected to pressure, which had undoubtedly caused the peculiar appearance. Lancinating pains had accompanied its development, and the nipple was retracted. He, however, considered it non-malignant. Time had shown his prognosis correct, inasmuch as but a short time since he saw the patient, and there had been no renewal of the tumor, nor new growth in any other part of the system.

June 10. *Dr. Conant* presented the arm and forearm removed from a subject in the dissecting room, unaccompanied by a history. At the articulation were exhibited signs of previous inflammation, exostosis having occurred at various points, and especially around the head of the radius, the annular ligament having been destroyed. The cause of this abnormity could not, of course, be explained; yet the condition well accounted for the loss of action, as seen in the member previous to dissection. The ginglymus action was slight, and pronation and supination destroyed—the forearm being fixed upon the arm at an angle of about thirty degrees.

Dr. Budd presented a biliary concretion of great size, measuring

one inch in its short, and one inch and seven-eighths in its long diameter. Added to the interest which size gave it, was the fact of the absence of any indication of its existence during the life of the patient from whom it was removed. It was discovered in making an autopsy of the body of a female, eighty years of age, who had died of apoplexy. The gall bladder contained nothing else, and closely clasped the concretion.

Dr. Conant considered the size of the concretion to be the reason of no symptoms to indicate its presence, as it prevented passage into the duct.

Dr. Budd inquired as to the probable cause of biliary concretions. He was referred by *Dr. Douglas* to "Precis des Maladies du Foie et du Pancreas de M. Fauconneau Dufresne," which has lately appeared from the French press. After some further remarks upon the specimen and its like, observation was directed to the subject of apoplexy, by an inquiry as to whether apoplexy ever occurred where the vessels were not diseased.

Dr. Budd stated, that in the case just under consideration clots were found in both lateral ventricles, but no disease whatever could be discovered.

Dr. Conant though it might occur, and related a case of a woman who died of apoplexy in twelve hours, after a hard day's labor. Upon examination, no disease could be discovered in the arteries; yet a rupture of one in the right optic thalamus was found. Cicatrices were found in the lungs, tumors in the uterus, and otherwise the woman was diseased. The arteries were everywhere healthy.

Several specimens were then exhibited by *Dr. Benjamin Lee.* In the first place, a heart and stomach from a man eighty years of age. He had been brought to the "Home" in a state of stupor, from which stimulants were unavailable to arouse him, and he soon died. The stomach was found thickened near the pylorus, and in the vicinity were several tumors beneath the mucous coat, the largest of which measured about three-quarters of an inch in diameter. Sprinkled throughout the organ, also, was a pigmentary deposit. No microscopic examination of the specimen had been made. The gentleman, however, looked upon the tumors as tuberculous.

While the man lived, auscultation at the præcordia discovered a bellows murmur. The heart, when seen, exhibited peculiar, strong, fibrinous concretions in both ventricles, adhering to the valves. Atheroma appeared for some distance along the aorta. Dr. Lee expressed himself as believing these concretions were forming for

some hours previous to death. They were unlike those usually found in the hearts of persons dying, for instance, from phthisis.

Dr. Cox related an instance of a child, affected with pneumonia, who was greatly oppressed for breath apparently, and exhibited puffiness and congestion of the face, resulting from such a condition. Thirty-six hours before death occurred, auscultation over the heart discovered abnormal murmurs, and twelve hours before death, the sounds were found blended. Post-mortem examination revealed no other lesion than the pneumonia, which was insufficient to produce death. In both ventricles of the heart, however, concretions, similar to those exhibited by Dr. Lee, were found.

Referring back to the stomach accompanying the heart, *Dr. Conant* remarked that he looked upon the tumors as malignant, and the pigmentary deposit as melanotic.

Continuing with his specimens, *Dr. Lee* exhibited the heart, a portion of the ileum, and the appendix vermiformis, from a man twenty-five years of age, a victim of phthisis. The specimens showed how widely disseminated had been the tuberculous deposit. The ileum showed the glands of Peyer affected ; and the appendix at its terminal portion, showed the disease passed into a state of softening.

No other specimens being presented, nor papers offered, *Dr. Benjamin Lee* related the two following cases, occurring at the " Colored Home" :—

Case 1.—*Accouchement.* Nancy Davis, aged 19, primipara, of nervous temperament, began to feel slight pains on Friday, June 6th, at about noon, which continued steadily until evening, when I made a vaginal examination, but was unable to touch the os, partly owing to her resistance, and partly owing to anterior obliquity. The head was presenting in the left occipito iliac position. Complained of not having slept for two nights. Gave Pulv. Dov. and Camph. The pains continued with regularity, but with varying violence until Saturday night, when they became very severe. At this time I was able to reach the os, high up, and dilated to the size of a shilling piece. Patient very nervous and pulse irritable. Gave Hyoscyamus and camphor, and, later in the night, a dose of castor oil, which, however, was soon rejected by the stomach. At 7 o'clock next morning, the nurse sent down word that the waters had broken. Found the membranes ruptured; head low down in the pelvis, but os not dilated farther than to a diameter of $2\frac{1}{2}$ inches. Ordered an enema of Tart. Ant. gr. ij in aq. ℥ij. Was sent for again in fifteen minutes, and found the child in the bed.

Case 2. *Remarkable Aneurismal Development.*—Margaret Simpson, aged 62, black, for 20 years past has been troubled with palpitations and dyspnœa, and for five years with "lumps on the neck and arms," which "troubled her by their beating."

Auscultation over the heart reveals loud sawing murmurs with musical whistling over the tricuspid and pulmonary valves, heard during the first sound—slight blowing with second sound, heard more distinctly over the aorta. Impulse strong.

On the left side there exist aneurismal tumors, on the common and external carotids, each of the size of a filbert; a small one on the submaxillary, just at the edge of the jaw; a moderate sized one on the subclavian, just before it dips under the clavicle; one as large as a filbert in the axilla; a small one at the upper third of the brachial; a good sized one at the lower end of the brachial, just before it dips under the muscle at the bend of the elbow; two small ones in the course of the radial; a very small one on the superficialis volæ; and on one of the small branches on the back of the wrist.

On the right side a similar condition exists. A large tumor is found on the carotid, an inch below the bifurcation; and one *at* the bifurcation; a very prominent one of moderate size on the inferior thyroid; an anastomosing aneurism on the temple; two on a small branch in front of the ear; one on the subclavian at about its middle; two as large as filberts on the axillary; a rather smaller one at the junction of the axillary with the brachial; a small one at the middle of the brachial; and one at its lower extremity; a small one at the bifurcation of the radial. She complains of a beating on the right of the median line, at about the middle of the lumbar region, deep in. The stethoscope reveals a dull pulsating sound, very faint, rendering it probable that there is also dilatation of the right common iliac. The whole number of tumors perceptible to sight and touch is twenty-four. It is probable that more exist; she, however, assures me that there are no tumors on the lower extremities.

June 24. *Dr. Benjamin Lee* presented some morbid specimens. The first was that of an abnormal heart—exhibiting the foramen ovale still unclosed—removed from a colored man eighty years of age, who had died from introcranial effusion. Auscultation during life discovered a slight bellows murmur, which was attributed to a deposit upon the aortic valves.

In the examination of this specimen doubts were expressed by *Dr. Conant* as to the condition being natural, as it might be the result of a rupture.

In answer to this, *Dr. Cox* called attention to the perfect appearance of the border of the foramen, the existence of no inequalities, and lack of any appearance indicating violence ; together with the fact, that several cases were on record, where life had been prolonged for a considerable time, with as much abnormity existing in the organ as in the specimen under consideration. Although 80 years had been attained by the man from whom the heart had been removed, he was of the opinion that the organ was abnormal from infancy.

Dr. Lee exhibited a tumor removed from the substance of the lung of a victim of phthisis, 25 years of age, the character of which he was unable to determine. The tumor was found in the apex of the right lung, and measured about an inch in diameter. The other portions of the lungs showed tuberculous deposit in various stages of development and degeneration. Some remarks were elicited, the general tenor of which was presumptive of the tuberculous character of the specimen.

Dr. Carnochan then presented the trunk of the second branch of the fifth pair of nerves, about one inch and a half in length, exhibiting signs of inflammation, both in color and size, it being much thickened.

The man from whom this portion of nerve was removed, was the victim of neuralgia for the space of seven years. He is a mechanic, forty-seven years of age, of nervo-bilious temperament. He first noticed the beginning of the disease in 1849. The pain increased in intensity, after a period of cessations, until the next year, when he had every tooth extracted from the superior maxilla, hoping to thus obtain relief ; but in vain. Equally vain were all the efforts made with various medicines for the space of a year and a half. In February, 1852, Dr. J. Watson operated by dissection of the entire cheek from the superior maxilla, with relief for the space of six or eight months, when the paroxysms returned, and he was again operated upon by the same surgeon, by division of the nerve at the infra orbital foramen. Obtaining relief for a period of time, he was freed from the necessity of another operation until January, 1854, when Dr. W. Parker operated in the same way as Dr. Watson. After a time Dr. Detmold operated, but no good effect following, the man consulted Dr. Mott, who operated at three different times, with no permanent relief.

In June, 1855, the man consulted Dr. Carnochan, who, finding therapeutic means of no avail, concluded to operate. The patient being put under the influence of chloroform, incisions were made, and a V

shaped flap dissected up, and turned toward the orbit. The foramen being found, it was with difficulty the nerve could be isolated, on account of the hard, extensive cicatrix, resulting from seven different operations. This being done, however, a small piece of bone was removed from the edge of the orbit and a part of its floor, laying open the canal and exposing the nerve to the extent of about a quarter of an inch. That portion of the nerve was then excised. From this operation the man recovered, and remained free from any return of the pain until March 11th, 1856, when he appeared, suffering severe pain along the alveolar border of the superior maxilla, and the surface of the malar bone. The paroxysms were violent in the extreme. The slightest touch of the superior labium on the left side awakened the most acute pain.

On the 21st of March, by appointment, a second operation was performed. The patient was placed under the influence of chloroform. An incision was then made from the tuberosity of the malar bone to a point midway between the labial tubercle and angle of the mouth on the left side. With a trephine, then, an opening was made into the antrum of Highmore, which being perfected, the floor of the infra orbital canal was removed by means of a hammer and chisel, the posterior wall of the antrum was also removed, and the nerve was thus laid bare in the spheno-maxillary fossa. Seizing the nerve with a pair of forceps, it was excised close to the foramen rotundum. The removed portion was much thickened and inflamed. The membrane of the antrum was also in a diseased condition, being heightened in color and very sensitive. Beside the removal of the nerve, a portion of the alveolar border of the maxilla was cut away to destroy the branches of the nerve which had given rise to the pain referred to that region by the sufferer. The pain has not as yet returned, and the parts are healed, as can be seen. The patient was present and those interested had an opportunity of examining the parts.

Dr. Casseday exhibited a leg which had been amputated by Prof. Carnochan at its upper third, showing extensive injury—the result of a railroad accident. Attempt had been made to preserve the limb intact, but reparation not going on, amputation was demanded and accordingly executed. An examination of the removed portion displayed far more complication than had been seen or supposed. The condition well accounted for the doubtful diagnosis.

Accompanying this specimen was an articulation of the knee showing extensive disease, the result of synovitis. The man, twenty

years of age, who had suffered the loss of his limb, in July of last year received a slight injury to his knee in getting out of a railroad car. He continued at his labor, however, for the space of nearly six months, when he entered the hospital with severe synovitis. Every measure adopted for his relief was of no avail. The knee grew worse, and the patient was evidently sinking. After consultation, amptutation was effected. The man lost his leg but saved his life.

A specimen of caries, also exhibited by *Dr. Casseday*, attracted considerable attention. The following notes accompanied the specimen :—

This case of caries is one of long standing. The patient is now 38 years of age, an Irishman, and a laborer. He says that the leg began to trouble him at about the age of 16 years. The disease began by a swelling of the leg, which was treated by a country physician by incision and poultices ; and the treatment was nearly successful, for he suffered but little inconvenience for some time. He came to New York, when he received an injury of the leg, and the disease came on again ; but the skin was not yet ulcerated. He then went to the New York Hospital, and was treated there and discharged, cured. He then received another injury, and not wishing to go to the Hospital he remained at home, without any treatment whatever. The disease, after this, increased until the bone was involved, and so far diseased that when Dr. Dunham Green, whose case it was, saw it, the lesion was irreparable, and amputation was resorted to. I forgot to mention that during the latter part of the disease, sequestra were thrown out. The operation was performed in February last (1856), by Dr. Green, in the presence, and with the assistance of Prof. Carnochan, Drs. Proudfoot, Brundidge, and some others, myself among the number. The stump healed kindly, and in three weeks after the operation the patient was able to walk around the square on which he lived.

The bone presented has the appearance of cancellated structure throughout its entire extent, and the disease must have been wholly incurable. There is a large exostosis along the entire fibula, which is united to the carious tibia firmly, by bony union.

Besides these specimens, a humerus, showing a very fine union after a fracture, was presented by *Dr. Casseday*, as interesting in its exhibition of the beautiful manner in which nature had reconstructed the tissue.

The same gentleman also presented five steatomatous tumours, removed from the scalp of a woman at one time. The largest of the tumors was about an inch in diameter. Some remarks were made upon the peculiarities of those growths.

NEW YORK PATHOLOGICAL SOCIETY.

Reported for the MONTHLY by E. LEE JONES, M. D., Secretary.

June 11, 1856. *Dr. Alonzo Clark* reported on the case of tumors of the eye, exhibited at the last meeting of the Society, by Dr. Wm. Detmold. The optic nerve itself was not implicated in the disease. The tumor seemed to be composed of two distinct parts, one light, and the other dark ; in the centre of the light portion is a dark spot. A fibrous tunic invests the tumor.

Microscopic examination shows it to be entirely composed of that variety of cell, now denied to be cancerous, the double caudate corpuscle of Muller. He could not divest himself of the idea, that these tumors were of a malignant nature ; and those holding a contrary opinion, admit their not unfrequent reproduction, a marked characteristic of malignancy. In the dark portion, hæmatoidine exists in great abundance ; and in fact the whole tumor is more or less darkened by its presence.

Dr. Clark next presented a specimen sent to him by Dr. Burdett of the Flatbush Hospital. It is a fibrous tumor on the exterior of the fundus of the uterus, weighing 18 pounds.

It is composed of two distinct portions—one part hard, the other soft ; the two blending together in such a manner as to render it impossible to determine where the one ends and the other commences. Near the central part of this large tumor were cysts containing several ounces of serous fluid.

Now what is the nature of the soft portion ? Is it cancerous ? If so, we have a solution of a point, often the subject of discussion at our meetings, whether fibrous tumors ever assume a malignant character. This softened portion, so far as its general appearance goes, may be encephaloid cancer, or the soft variety of fibrous tumor. But with this tumor was brought the liver, 16 pounds in weight, which contains several masses, large and small, of what will hardly be doubted is encephaloid deposit ; and have the same vascu-

larity and general consistence as the softened portion of the uterine tumor, and seem to be of the same character.

The microscopic examination was not entirely satisfactory, except as demonstrating the two deposits as identical in nature ; if one is cancerous, the other is—both being constituted mainly of fibres and cells, the latter of large size, more or less fatty, more or less rounded ; the nuclei, in most instances, obscured by the brownish opacity produced in them by the alcohol, in which the specimen had been macerated, or otherwise wanting.

If so, then here is an instance showing the degeneration of fibrous into malignant growths.

Nothing of importance occurred in the progress of the disease. It was removed from a colored woman, 40 years of age, who first became aware of the existence of the uterine tumor about seven years since.

The softened portion being about one-fifth of the whole mass, appeared mainly as one large mass, but there were numerous softened spots, in the substance of the tumor, of small size.

Dr. McCready presented a specimen of ulceration and perforation of the appendix vermiformis, from hardened fæces.

On Wednesday, June 4th, he was called to visit a slight, somewhat delicate boy in appearance, though habitually enjoying good health. Two days previous, immediately after dinner, he had eaten a large piece of cocoa-nut. From that time he had suffered colicky pains in the bowels. He had vomited slightly, and a dose of castor oil had been administered, which had acted freely. He was found with a cool skin, and a tranquil expression of countenance ; the tongue clean, the pulse about 100, and without tension. The pain complained of was aggravated at intervals, and was located in the epigastric and right hypochondriac regions. He complained of tenderness on pressure ; but when it was made gradually, he bore it well. A dose of calomel and Dover's powder was ordered, to be followed in the morning by a mixture of rhubarb and soda. The medicine operated freely, but without affording relief. Morphine in full doses was now prescribed, and the pain was for a time alleviated, and the pulse reduced in frequency. The pain, however, returned, and the pulse rose to 116. The abdomen was slightly swollen, and the tenderness referred to, in the same region as before, was somewhat increased. He complained that it hurt him to rise, or to turn in bed. This, however, was not constant, since he, on different occasions, turned and raised himself to a sitting posture, at my request,

without complaint. The decubitus was natural, generally on the side ; legs were not drawn up ; the countenance was natural and the skin soft. He was put on the use of calomel and opium : two grains of the former, with a half grain of the latter, being ordered every three hours. The opium, as is frequently the case, diminished the secretion of urine, and also produced slight retention ; the patient passing it but once in 24 hours.

On the morning of Sunday, June 8th, Dr. Gurdon Buck saw the child, in consultation. The symptoms had not materially altered ; the pulse ranged from 116 to 120, and was soft, and of moderate fulness ; the tongue clean ; the skin, countenance, and decubitus natural. As the bowels had not been moved for nearly three days, a large enema, with a spoonful of castor oil was ordered, and warm fomentations to the abdomen, which had previously been applied, were continued. On visiting the patient at 1 P. M., his countenance was sunken, and pulse very frequent, and scarcely perceptible. The skin was bathed in perspiration, and there was some coldness of the extremities. The pain was gone, and the little patient moved freely in all directions. Soon after the administration of the enema, he had a large watery evacuation, and had passed urine freely. This was followed by vomiting of a quantity of dark, green-looking fluid.

During the afternoon and evening, the vomiting recurred several times ; and acute pain in the abdomen was complained of. The child became exceedingly restless, tossing about in bed ; the extremities colder ; the countenance more livid and sunken, and he finally expired at about three o'clock on the morning of the 10th.

Post mortem examination, 14 hours after death. *Abdomen.*—On opening the abdomen, it was found filled with a considerable quantity of sero-purulent fluid. The intestines were universally glued together by soft adhesions, which were readily broken up. In several places where two folds would be adherent, there would be at the place of adhesion a dark brown, circumscribed patch, with a well-defined margin, resembling so closely the appearance of gangrene after strangulated hernia, as to be at first taken for gangrene by Dr. Buck.

The intensity of the inflammation was evidently greatest about the hypogastric region, and raising the intestines from the pelvis, the effused fluid was found there of a darker color, having a brownish tinge. There was, however, no feculent odor.

Amid the mass of large intestine which dipped down into the pelvis, the appendix vermiformis was found, intensely inflamed, much

enlarged, and having a flattened appearance. It contained a concretion about the size of a swollen white bean. No perforation was noticeable. On being laid open, the mucous membrane of the appendix was intensely inflamed. The inflammation extending to the neighboring large intestine, the follicles of which were enlarged and prominent. The concretion consisted apparently of a small feculent mass which had formed itself around two or three minute whitish bodies about the size of strawberry seeds. The appendix, with the caput coli, was removed, and, after maceration one hour in water, several minute ulcerations were evident ; one of which, about the size of a pin's head, had perforated into the abominal cavity. The other organs were not examined.

Dr. Finnell presented an instance of rupture of the small intestine, from violence. The patient from whom this was obtained, was 30 years old, a stout, healthy man, who was violently beaten about the head, and kicked in the abdomen. He instantly complained of severe pain in the bowels, sickness at stomach, and great prostration of strength. In a few minutes he recovered sufficiently to walk home a distance of several blocks. The pain still continuing, a physician was called, who attended him up to the time of his death, which took place 13 hours after the injury.

The autopsy revealed extensive peritonitis, and a circular perforation about the size of a five cent piece was found in the ileum about three feet from the cœcum. The contents of the intestine passing into the peritoneal cavity, producing inflammation and death.

Dr. Finnell then presented several specimens from a man, who died of pneumonia. There was found an ununited fracture of both bones of the forearm, with extravasation of blood in the muscular substance. Over the surface of the spleen were small rounded bodies, of an uniform size, hard and white. Over the pulmonary pleura were scattered 20 or 30 of the same bodies, and also over the surface of the liver ; they did not penetrate the substance of the organs. No cancer or tubercles were observed in the lungs. There was also a depression of the frontal bone. He has been subject to epilepsy for 25 years. No reliable account of the case could be obtained.

A second specimen of ulceration of the appendix vermiformis was presented by *Dr. Enos*, who obtained it from a girl 7 years old, who complained first of pain in the bowels. Supposing it to be intestinal irritation, he administered a cathartic ; no relief followed. Inflammation then set in actively, with pain,—rapid pulse. These symptoms increased and she died on the third day.

Sero-purulent fluid in abundance was found in the abdominal cavity. The appendix was perforated at its junction with the caput, by a mass of impacted fœces. The opening was on the cœcal side of the foreign body.

CHRONICLE OF MEDICAL PROGRESS.

Tracheotomy in a Mule. By WM. D. ANDERSON, M.D.

It is now more than twelve months since the following novel, rather amusing, as well as interesting, incident occurred :—

Called to a patient, an overseer on an adjoining plantation, my attention, as I entered the gate, was arrested by the extreme suffering and dying agonies of a mule, large and fine, still upon his feet, staggering and reeling as he endeavored to keep the company of others, in the same small lot, which were so frightened by the mixed and unnatural screaming and roaring of the beast, that they fled in terror to avoid him. Every hair on him wet, his mouth elevated, jaws open wide, and gasping for breath, his condition, and attitude, and struggles, were articulate in imploring aid. I believed it could be given, if done instantly. At that moment the proprietor of the plantation rode up, and with intense earnestness ordered a *drench* quickly. I told him that a drench would be useless, but that if a man were the subject, I thought he might be relieved. He replied, that what was good for man, was also for the horse. I proceeded quickly (the mule being down), to cut down upon the trachea, at about its upper two-thirds, opened it by a longitudinal incision of some three or four inches. This was done in less than five minutes from my first sight of him; but the mule was already dead. "You are too late," remarked the owner. With regret I replied, "So it seems." Having my fingers in, and spreading the trachea, removing the coagula of blood, I imagined that I felt a gentle rushing of air, and in a minute more the most rapid and violent ingress and egress of air through the artificial opening was going on, like an engine working off steam. The mule was directly upon his feet. A section of a cow's horn answered as a tube, and in less than thirty minutes from the operation, the mule was eating, breathing, and apparently doing as well as ever. He made a quick and perfect recovery.

His disease was Distemper, affecting the throat, and closing it either by effusion in the submucous cellular tissue lining the larynx

(œdema glottidis), or by the faucial and pharyngeal tumefaction; or possibly all existed together.

I am aware that your excellent journal is not precisely the medium for such a paper. I know, however, of none other, except it be the popular, and as the article claims neither to be professional nor popular, and more especially as no serious loss can result to the world of either men or mules, from its suppression, I cheerfully submit it to your discretion.

Tensas Parish, La., Jan. 28, 1856.

Addendum by B. Dowler, M.D.

Veterinary colleges scarcely exist in the United States; though it appears that laudable efforts are now directed towards the establishment of these institutions in Philadelphia and Boston. In France there are several, and in other parts of Europe there are many veterinary schools, thoroughly organized and wisely supported by the different governments, thereby affording the cultivators of veterinary medicine the means of a complete education, without which the cattle-doctor can, no more than the human-doctor, practice successfully his very difficult and most useful vocation. Until veterinary practitioners, duly qualified, shall be established in every town, the physician should not think it beneath his dignity to afford surgical and medical relief to the inferior animals, in so far as he may be qualified in this behalf.

Whether the human race be regarded as consisting of one or several species, its differentiæ are quite restricted as compared with the inferior animals; yet, nevertheless, these latter illustrate human anatomy, physiology, and pathology.

The diseases and the post-mortem examination of animals, afford the country physician advantages inferior only to those of the city hospitals. Human physiology has been to a great extent founded upon observations and experiments upon the inferior animals. Comparative physiology, anatomy, therapeutics, surgery, and pathological anatomy, thus developed, are of great value to the physician.

The hygiene, food, drink, lodging, crowding, ventilation, exposure to heat, cold, and humidity; the acclimation, health, diseases, and remedies of cattle, all contribute to illustrate the science of medicine.

The pneumonia of hogs, for example, I have found to correspond with that of man in pathological anatomy. Perhaps the best specimen of anæmia I have met with, was in the vivisection of an alligator, in which the entire tongue and all the soft parts of the inferior

jaw had been, probably many years before, cut away. The animal, thin, and weak, had scarcely a tinge of redness in the blood, doubtlessly because he had not been able to procure and swallow a sufficiency of food in a mutilated condition.

Cattle epidemics (epizoötics) deserve to be carefully recorded for their intrinsic importance, as well as for their possible value in illustrating endemics and epidemics proper.

In January, 1845, the public journals recorded an extensive and very fatal epidemic among fishes upon the Atlantic coast, from New England to the Southern States, extending over a belt of water from one to three miles broad. In April of the same year the fish died in great numbers in the Lake Pontchartrain, and in the canals connecting it with New Orleans. The stench from these decomposing fishes was deemed a nuisance and dangerous to health; whereupon the municipal government ordered that these dead fish should be interred. Hydropathy, or the water-cure cannot, as it seems, always cure fishes of fevers or other diseases. Two or three years before this great mortality among fishes, a similar mortality was reported as having been very fatal to the red-fish upon the coast of Texas, particularly at Galveston. In May and June of the year 1851, great sickness and mortality prevailed among the fishes of the Lower Mississippi, particularly among the catfish family, many of which were found dead with upturned sides and abdomens, floating; others feebly swimming at or near the surface of the river in a dying condition.

The ætiology of epidemics termed epizoötics among animals presents problems in the history of morbid causation, the solution of which is hoped for, rather than found. The epidemics which affect man, do not always simultaneously affect beasts, except in rare instances, though both classes suffer from diseases which, to a considerable extent, are identical; as affections of the throat, lungs, brain, bowels, skin, eyes, &c., including inflammations, fevers, dropsies, anæmia, debility, hypertrophy, atrophy, palsy, spasms, plagues, and the like. It may, therefore, be repeated, that it is the duty of humane physicians, particularly in the country remote from veterinary surgeons, to pay strict attention to such diseases and surgical accidents as may fall under his observation among animals. Physiologists have availed themselves of the highly important scientific advantages derived from experiments and vivisections; while from the same source pathologists, therapeutists, and pathological anatomists may

learn much as to hygiene, sanitary regulations, diseases, treatment, and post-mortem examination—which must also be useful in the ordinary course of daily practice.—*N. O. Med. and Surg. Journal.*

Removal of two pieces of a large Sewing Needle from the Thigh, after remaining there forty-five years. By Joseph R. Smith, M.D., of Elgton, Alabama.

On the 9th of Feb., 1856, Mr. Ebenezer Byram, aged 56 years, presented himself at my office for the purpose of having his thigh examined, which, he said, was swollen, as his physician told him, from the "fever settling in it," he having had a spell of typhoid fever some twelve months previous. On exposing the limb, I found the thigh on its external side, much swollen, red, and inflamed ; the surrounding parts being quite hard, and about the centre of the thigh on its external side was a small soft space about the size of a silver dollar, which fluctuated on percussion, showing that a quantity of matter was contained within. I plunged a large abscess lancet into this soft space, and discharged about a gill of thin, yellowish fluid. I then introduced the probe, and after searching for some time, felt the probe grate against some foreign body. I immediately withdrew the probe and introduced a small pair of forceps and laid hold of the substance, and withdrew two bits of what appeared to have been a large sewing needle ; each piece was near three-fourths of an inch in length. After introducing a tent, and dressing the wound, I made inquiry concerning his previous history. He informed me that, when about eight years of age, he had what his parents called white swelling ; the symptoms then were great swelling, pain, and redness of the thigh, which continued to trouble and pain him for twelve months; but at no time did it ever discharge matter, but gradually subsided, and at the end of twelve months he suffered little or no inconvenience from it, except on sitting in "a certain manner" in a chair, or in riding on horse-back if he pressed the parts "a certain way," they would feel as though something were sticking in him ; these continued to be his symptoms up to September, 1855, when the pain, redness, and swelling increased and gave him so much trouble, as to induce him to seek advice ; and the above is the history and the result.—*Ibid.*

Memoirs of the celebrated Dr. Harvey; from Notes collected from the Bodleian Library and Ashmolean Museum.

[From the London Medical and Physical Journal, for February, 1815.]

Gul. Harveus, An. ætat. 10, in Schola Cantuar. primis doctrinæ rudimentis imbutus; 14, Col. Gonvil. et Caii Alumnus; 19, peragravit Galliam et Italiam; 23, Patavii Præceptores habuit Eust. Radium, Tho. Minad. H. Fab. ab Aquapend. Consul Angl. 16* fit; 24, Doctor Med. et Chirurg. Reversus Lond. praxin exercuit. et uxorem† duxit; 25, Coll. Med. Socius; 37, Anatom. et Chirurg. Professor; 54, Medicus Regius factus. Scripsit de Motu Sanguinis, et de Gen. Animal. Obiit 30 Jun. MD.CLVII. Ætat. 80.‡ (But I well remember that Dr. Alsop, at his funeral sayd, that he was eighty wanting one; and that he was the eldest of nine brethren.)

He lies buried in a vault at Hempsted in Essex, wch. his brother Eliab Harvey built, he is lapt in lead, and on his breast in great letters DR. WILLIAM HARVEY. I was at his funeral, and helpt to carry him into the vault.

In the library at the Physitian's Colledge, was the following inscription above his statue, (which was in his doctorall robes.)

GUL. HARVEUS, Natus A. D. 1578, Apr. 2. Folkston,§ in Com. Cantii, Primogenitus Tho. Harvei et Joanæ Halk. Frat. Germani. Tho. Jo. Dan. Eliab. Mich. Mat. Sorores Sarah, Amey.

Under his white marble statue, on the pedestall, thus,

GULIELMO HARVEO,
Vivo,
Monumentis suis immortalli,
Hoc insuper
Coll. Med. Lond.
Posuit
Qui enim SANGUINIS MOTUM
(ut et ANIMAL ORTUM) dedit
meruit esse
STATOR Perpetuus.

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* Sic. Edit. † Smyth.

‡ Over Dr. Harvey's picture in a great parlor under the library, at the Physitians' College at Amen-corner, [burnt.]

§ Borne in the house which is now the post house, a fair stone built house, which he gave to Caius Coll. in Cambridge, with some lands there, in his will. His brother Eliab would have given any money or exchange for it, because 'twas his father's and they all borne there, but the doctor (truly) thought his memory would be better preserved this way, for his brother has left noble seats, and about 3000 pounds per annum at least.

Dr. Harvey added (or was very bountiful in contributing to) a noble building of Roman architecture (of rustique work with Corinthian pillasters) at the Physitians' College aforesaid, viz., a great parlour, a kind of convocation-house for the fellows to meet in belowe ; and a library above. On the outside, on the freeze, in letters three inches long, is this inscription, Suasu et cura Fran. Prujeani, Præsidis, et Edmundi Smith, Elect. Inchoata et Perfecta est hæc Fabrica. An. mdcliii.

All these buildings and remembrances were destroyed by the general fire.

He was always very contemplative, and the first yt. I heare of yt. was curious in Anatomic in England. He had made dissections of froggs, toads, and a number of other animals, and had curious observations on them, which papers, together with his goods, in his lodgings, at White-hall, were plundered at the beginning of the rebellion, he being for the king, and with him at Oxon, but he often sayd, that of all the losses he sustained, no griefe was so crucifying to him as the losse of these papers, wch. for love or money he could never retrieve or obtaine. When K. Ch. I. by reason of the tumults left London, he attended him and was at the fight of Edge-hill with him ; and during the fight, the Prince and D. of Yorke were committed to his care. He told me that he withdrew with them under a hedge, and tooke out of his pockett a booke and read ; but he had not read very long before a bullet of a great gun grazed on the ground neare him, which made him remove his station ; he told me yt. Sir Adrian Scrope was dangerously wounded there, and left for dead amongst the dead men, stript, which happened to be the saving of his life. It was cold clear weather, and a frost that night ; which staunched his bleeding, and about midnight, or some hours after his hurt, he awaked, and was faine to drawe a dead body upon him for warmth sake.

After Oxford was surrendered, which was 24 July, 1646, he came to London, and lived with his brother Eliab, a rich merchant in London, on —— hill, opposite to St. Lawrence, Poultry, where was then a high leaden steeple, (there were but two, viz : this and St. Dunstan's in the east,) and at his brother's country house at Roehampton. His brother, Eliab, bought about 1654, Cockaine-house, now (1680) the Excise Office, a noble house, where the doctor was wont to contemplate on the leads of the house, and had his severall stations, in regard of the sun, or wind. He did delight to be in the darke, and told me he could then best contemplate.

He had a house heretofore at Combe, in Surrey, a good air and prospect, where he had caves made in the earth, in which in Summer time he delighted to meditate. He was pretty well versed in mathematiques, and had made himselfe master of Mr. Oughtred's Clavis Math. in his old age ; and I have seen him perusing it, and working problems not long before he dyed, and that book was always in his meditating apartment. His chamber was that room which is now the office of Elias Ashmole, Esq., where he dyed, being taken with the dead palsey, which took away his speech ; as soon as he was attaqued, he presently sent for his brother and nephews, and gave one a watch, another another thing, &c., as remembrances of him. He dyed worth 20,000 pounds, wch. he left to his brother Eliab. In his will, he left his old friend, Mr. Tho. Hobbes, 10 pounds, as a token of his love.

He was wont to say, that a man was but a great mischievous baboon.

He would say, that the Europeans knew not how to order or govern our woemen, and that the Turks were the only people [who] used them wisely.

He had been physitian to the Lord Ch. Bacon, whom he esteemed much for his witt and style, but would not allow him to be a great philosopher, Said he to me, "He writes philosophy like a Ld. Chan cellor," speaking in derision.*

About 1649, he travelled again into Italy, Dr. George, now Sir John Ent, then accompanying him.

At Oxford he grew acquainted with Dr. Charles Scarborough, then a young physician, (since by Ch. II. knighted) in whose conversation he much delighted ; and whereas before he marched up and downe with the army, he took him to him and made him ly in his chamber, and said to him, "Prithee leave off thy gunning, and stay here, I will bring thee into practice." For twenty years before he dyed, he took no manner of care about his worldly concerns, but his brother Eliab, who was a very wise and prudent manager, ordered all not only faithfully, but better than he could have done for himself. He was, as all the rest of the brothers, very cholerique, and in his young-

* This must relate to Bacon's physiological opinions as exemplified in his *Historia Vitæ & Mortis*, the work which produced so much wit in the Tristram Shandy, concerning radical heat and radical moisture. Harvey's mode of inquiry was exactly such as Bacon pointed out in his Nov. Organum. But it must be admitted, that Bacon's only physiological work savours much of precedents, in the Lord Chancellor style.—EDIT.

er days wore a dagger (as the fashion then was, nay I remember my old schoolmaster, Mr. Latimer, at seventy, wore a dudgeon, with a knife and bodkin, as also my old grandfather, Lyte, and Alderman Whitson, of Bristowe, wch. I suppose was the common fashion in their young dayes,) but this Dr. would be apt to drawe out his dagger upon every slight occasion.

He was not tall, but of the lowest stature, round faced, olivaster (like wainscott) complexion ; little eie, round, very black, full of spirit ; his haire was black as a raven, but quite white twenty years before he dyed.

I first sawe him at Oxford, 1642, after Edgehill fight, but was then too young to be acquainted with so great a doctor. I remember he came severall times to our Coll. (Trin.) to George Bathurst, B. D., who had a hen to hatch egges in his chamber, which they daily opened to see the progress and way of generation. I had not the honor to be acquainted [with] him till 1651, being my cos. Montague's physitian and friend. I was at that time bound for Italy, (but to my great grief dissuaded by my mother's importunity.) He was very communicative and willing to instruct any that were modest and respectfull to him. And in order to my journey, dictated to me what to see, what company to keep, what bookes to read, how to manage my studyes ; in short, he bid me go to the fountaine head, and read Aristotle, Cicero, Avicenna, and did call the neoteriques s . . t breeches. He wrote a very bad hand, which with use I could pretty well read. I have heard him say, that after his booke of the Circulation of the Blood came out, he fell mightily in his practice, and 'twas believed by the vulgar, that he was cracked-brained ; and all the physitians were against his opinion, and envyed him ; with much adoe at last in about twenty or thirty yeares time, it was received in all the universities in the world, and, as Mr. Hobbes sayes in his book, " De Corpore," he is the only man, perhaps, that ever lived to see his owne doctrine established in his life-time.

He understood Greek and Latin pretty well, but was no critique, and he wrote very bad Latin. The Circuitus Sanguinis was, as I take it, donne into Latin by Sir George Ent, as also his booke de Generatione Animalium, but a little book in 12mo. against Riolan (I thinke) wherein he makes out his doctrine clearer, was writt by himselfe, and that, as I take it, at Oxford.

His Maj. K. Cha. I. gave him the wardenship of Merton Colledge, as a reward for his service, but the times suffered him not to receive or enjoy any benefit of it.

He was physitian and a great favorite of the Lord High Marshall of England, Tho. Howard, Earl of Arundel and Surrey, with whom he travelled as his physitian in his ambassade to the Emperor ——, at Vienna, Ao. Dni. 163–. Mr. Hollar (who has then one of his excellencie's gentlemen) told me that in his voyage, he would still be making of excursions into the woods, making observations of strange trees and plants, earths, &c., and sometimes like to be lost. So that my Lord Ambassador would be really angry with him, for there was not only danger of thieves but also of wild beasts.

He was much and often troubled with the goute, and his way of cure was thus : he would then sitt with his legges bare, if it were frost, on the leads of Cockaine-house, putt them into a payle of water, till he was almost dead with cold, and betake himselfe to his stove, and so 'twas gone.

He was hott headed, and his thoughts working would many times keep him from sleeping : he told me, that then his way was, to rise out of his bed and walke about his chamber in his shirt, till he was pretty coole, i. e. till he began to have a horror, and then returne to his bed, and sleep very comfortably.

I remember he was wont to drink coffee, which he and his brother Eliab did, before coffee-houses were in fashion in London.

All his profession would allowe him to be an excellent anatomist, but I never heard any that admired his therapeutique way. I knew several practitioners in this towne (London) that would not have given 3d for one of his bills ; and that a man could hardly tell by one of his bills what he did aime at.

He did not care for chymistrey, and was wont to speak against them,* with undervalue.

It is now fitt, and but just, that I should endeavor to undeceive the world in a scandall, that I find strongly runnes of him, wch. I have mett amongst some learned young men, viz : that he made himselfe away, to putt himselfe out of his paine, by opium ; not but that had he labored under great paines, he had been readie enough to have donne it, I doe not deny, that it was according to his principles upon certain occasions to——,but the manner of his dyeing was really and bonâ fide thus : viz. the morning of his death, about ten o'clock he went to speake, and found he had the dead palsey in his tongue, then he saw what was to become of him, he knew there was then no hopes for his recovery, so presently sends for his young nephews to

* Sic Edit.

come up to him, to whom he gives one his watch,† to another another remembrance, &c., made sign to whom he —— Sambroke, his apothecary, in Black-fryars, to lett him blood in the tongue, which did little or no good, and so he ended his dayes. His practice was not very great towards his latter end, he declined it, unlesse to a speciall friend,—e. g. my Lady Howland, who had a cancer in her breast, which he did cut off and seared, but at last she dyed of it.

He rode on horseback with a foot-cloath to visit his patients, his man following on foot, as the fashion then was, wch. was very decent, now quite discontinued. The judges rode also with their foot-cloaths to Westminster hall, wch. ended at the death of Sir Rob. Hyde, Lord Ch. Justice. Anth. E. of Shaft. would have revived [it], but several of the judges being old and ill horsemen would not agree to it. The scandal aforesaid is from Sir Charles Scarborough's sayings that he had, towards his latter end, a preparation of opium, and I know not what, which he kept in his study to take, if occasion should serve, to putt him out of his paine, and which Sir Charles promised to give him : this I believe to be true ; but do not at all believe that he really did give it him. The palsey did give him an easie passeport.—*Electric Repertory, Vol. vi., p.* 107–113.—*N. O. Med. Journal.*

EDITORIAL AND MISCELLANEOUS.

Two numbers of the *Louisville Review* have been received. It is edited by Drs. Gross and Richardson, and has not been sooner noticed from the fact that, just as the first number came, we received news of the senior editor's election to the Chair of Surgery in the Jefferson Medical College ; and we were not informed what, if any, change would be consequently made. The characteristic of the publication is to be, if we understand it, a series of reviews ; and most of those in these numbers are of a high character. *The* review of the first is by the senior editor, on August Gottlieb Richter, and it is not of a character to be equalled by the same writer in every issue. That of the second is by Dr. T. S. Bell, on Trask's Prize Essay on Placenta Prævia. Dr Miller, in this number, in a review of Storer's edition of Dr. Simpson's Obstetric Memoirs, attacks the editor, it seems to us, with more vigor than justice. Of course these

† 'Twas a minute watch, wth. wch. he made his experiments.

are not the only reviews, but we specify them as having especially attracted our attention. Original articles of the usual character also abound. One on vesico-vaginal *fistule* sets forth Dr. Bozeman's modification of suture apparatus, for which he claims great superiority over all others known. We are certain that he has been guilty of affectation in using the word *fistule*, when we have a word which answers every purpose quite as well, and a little better. *Fistula* is a legitimate English word,—all remembrance of its origin having passed away; but *fistule* is entirely French, is an intruder where it is not wanted, much less needed, and standing with *vesico-vaginal* is as much out of place as its countryman would be if we wrote of the *tres* great noise in the street. This affectation of foreign words is not worthy of Dr. B., and we are sure that as soon as this fault in his style is pointed out to him, he will take care to avoid it. Of the surgery of his article we will not now speak. Dr. Bemiss, of Louisville, has, in the second number, a very sensible article on croup, though we do not care to endorse all his opinions. It is very funny to notice how much pains he takes to shut his eyes, so that he may not see anything that Dr. Horace Green has written about the disease; but we shall break the news of it gently to the latter, and presume he will not be entirely overcome. Seriously, however, it was not quite worthy of Dr. B. to do so.

The salutatory has some very uncalled for as well as uncourteous remarks about journals in that section of the country, "which was the first to throw off the political yoke that England had placed upon our necks," accusing them of a "servile bending of the knee to the English Baal of medical criticism." As this does not hit the MONTHLY, if indeed it does any one else, we feel free to say that it seems to have been introduced to "drum up" subscribers, by sounding a rather loud trumpet, and then gently tickling them. This follows:—"We congratulate our Southern and Western brethren in their comparative freedom from this shameful idolatry, and we hope we have good reason to believe that they will never submit to its degrading influence." There was an excellent opportunity lost to introduce something about the American eagle.

Our notice of the *Review* has grown beyond all usual bounds, and chiefly because it is a very promising periodical; which, if wisely and energetically conducted, as no doubt it will be, will rank high among its compeers Its faults are those common to new journals, and will soon wear off, and its merits will then be more apparent. As to size, if our readers put two numbers of the MONTHLY together,

it will be found that they contain twenty-four pages more than one number of the *Review*, which appears once in two months. The price is the same.

By a delay in the appearance of the MONTHLY, we are able to announce that the Chair of Anatomy, in the New York Medical College, vacated by the resignation of Dr. E. H. Parker, has been filled by the election of Dr. Timothy Childs, of Pittsfield, Mass. Prof. Childs, after a thorough professional education, to which was added service as Assistant Surgeon in the Army, lectured upon Surgery and Anatomy in the Pittsfield Medical School, with honor to himself and profit to his pupils. He will bring ability and experience to his new position in this city, for which we believe he is very well qualified, and to which we shall cordially welcome him. The New York Medical College is thus again fully equipped, and prepared for the Winter campaign ; and will, without doubt, continue to meet with the same success that has heretofore marked its progress.

We have been particularly requested to insert the following :—

"At a meeting of the Board of Trustees of the 'New York Medical College,' held on the 5th inst., on motion, it was unanimously Resolved, That in accepting the resignation of Prof. E. H. Parker, M. D., of the Chair of Anatomy in the 'New York Medical College,' the Trustees desire to express their regret that the engagements of Dr. Parker should render it necessary for him to resign the Chair which he has filled with great credit to himself, and with entire satisfaction to this Board, and to his colleagues of the 'New York Medical College.'"

Our New Jersey neighbor compared himself some time since to an oxy hydrogen blowpipe. The comparison would have seemed to be rather a doubtful compliment, if made by any one else. New York and Philadelphia were to be the grand reservoirs, and all bystanders expected to have their eyes put out by the illumination. We have kept our own carefully shaded, and so have preserved our vision. Our New York gas (we do not know whether it is oxygen or hydrogen, or some other "gen,") is communicated in letters signed "J. Gotham, Jr." The correspondent quotes, in the July number, the results of Dr. J. H. Griscom's treatment of twenty-six cases of acute

rheumatism by the alkaline method. None went over four weeks before they were cured, and the shortest case was five days. The average duration of the cases, after they came under treatment, was about thirteen days. The treatment is thus described :—"Almost immediately after admission, the sup. tart. pot. et soda was administered in doses of one drachm, repeated every hour, and an alkaline anodyne lotion of carb. potas. and tinct. opii applied locally on the swelled joints. This treatment was preceded by such alteratives and evacuants as each case appeared to require. With the improvement of the patient the medicine was administered less frequently—say every two, three, or four hours. It is remarked that purgation rarely followed the use of the salt, though when it did, its action was restrained by the addition of a few drops of tinct. opii. When the pains were very severe at night, pulv. Doveri, or some other form of opiate was given." The report adds : "Under the most approved plans of treatment heretofore, the duration of a severe attack of rheumatism has rarely been less than six weeks. One of the most happy circumstances attending the alkaline treatment, is the freedom from cardiac and other complications, so frequent under ordinary circumstances."

As these letters bear strong internal evidence of having been written by Dr. John H. Griscom himself, we may consider this statement of success as by authority.

A New Instrument for the Treatment of Retroflexion and Anteflexion of the Uterus.—Prof. E. R. Peaslee has invented an instrument for the above-mentioned displacements of the uterus, which he has found to be quite successful. It is constructed upon an entirely *new principle;* so that the intra-uterine portion alone is first applied, and the other portions are adapted to this subsequently. We expect soon to be able to give our readers a full description of the instrument, and of the manner of its application.

The Angers journals speak of Doctor Emile Renaut, of Beaufort, as having shown great devotion and praiseworthy courage. During three consecutive days and nights he did not get out of the boat, by which he went to take, from the windows and skylights on the roofs, the unfortunate people who were surprised by the inundation. He thus saved from certain death a large number of people.—*Gaz. Hebdom.*

THE AMERICAN

MEDICAL MONTHLY.

SEPTEMBER, 1856.

ESSAYS, MONOGRAPHS, AND CASES

The Symptomatic Value of the Arcus Senilis ; with a Tabulated Statement of 72 *Cases.* Read before the N. Y. Medico-Chirurgical Society, by BENJAMIN LEE, A.M., M.D., Assistant Physician to the Colored Home, Junior Assistant to Bellevue Hospital.

Among the indices of the approach to each individual of the human race of "the day when the keepers of the house shall tremble, and the strong men shall bow themselves, and the grinders cease because they are few, and those that look out of the windows be darkened," is the mysterious bow which spans the spheres of those windows themselves,—the bow, not of promise, but of warning, γεροντοξον, the "old man's bow."

This phenomenon, more usually known under its Latin name of *arcus senilis*, has been the subject of remark by careful observers of the signs of the times of life in all ages : indeed, so palpable an alteration in the appearance of so important an organ, and so noticeable a feature of the human face, could hardly have escaped the observation of even the careless and unscientific. It has usually been noticed as curious and mysterious, has been considered as an evidence of advanced age, or at least of the arrival of the time when the powers of life were beginning to decline ; but being found to be of little or no injury to the organ of sight itself, save in a few exceptional

and very aggravated cases, it has been dismissed with a cursory glance, and perhaps a moral reflection.

The importance, however, which has of late years been given to the study of pathological anatomy, by the laborious and successful researches of Rokitansky, of Andral, Cruveilhier, and others not less eminent, has led to investigations more or less careful, into the character of the abnormal condition which gives rise to this appearance. The theories which have been advanced on this point are various, nearly every oculist having invented or sought out one for himself; while a few who made it the subject of careful microscopic examination, arrived at results more or less approximating to one another and to the truth. *One "states the arc to be composed of a firmer and more opaque substance than that of which the cornea is originally formed, arising from an impaired action of the secernent vessels, which cease to pour out healthy corneal matter." †Another unhesitatingly declares it "a deposit of lymph, formed perhaps by a slow chronic inflammation;" while a ‡third, wiser and honester, frankly confesses his inability "to offer an explanation." The subject remained open for discussion until the publication, in the *London Lancet* for 1850 (Vol. II, p. 363), by Mr. Edwin Canton, Surgeon, of an able article, in which he announces the discovery that the arcus senilis is nothing more or less than one development of that all-pervading disease, fatty degeneration; that the annular or arciform opacity is the result of the deposit in that situation of fat globules, or to use his own language, "the presence of innumerable oil drops in the substance of the corneal tissue." He tell us farther, that "it is only the cornea proper which is so invaded,—the posterior elastic lamina, together with that beautifully arranged fibrous cordage and anterior lamella, discovered and described by Mr. Bowman, being unimplicated in the change." Had Mr. Canton stopped here—had he contented himself with settling finally a mooted question of pathological anatomy, even in what might seem this petty and trifling instance, he would still have merited the thanks of the

* Mr. Walker, in the London Lancet for 1840.

† Mr. Hays, American Journal of Medical Science, Vol. III.

‡ Mr. Tyrrell, on "Diseases of the Eye."

profession for this result of his careful and systematic labors. For every step in the march of positive truth, is a something gained really, definitely, and forever ; and is of more value to the cause of true science than a hundred vague and baseless theories, however brilliant, elaborate, or ingenious. But this discovery bears upon it the stamp of truth, and of greatness, in that while it closes definitely one field of investigation, it serves at the same time to open another, wider and more practically useful than the last. And Mr. Canton showed himself imbued with the true spirit of discovery, in that, not satisfied with the addition he had already made to the knowledge of his profession, at once appreciating the important bearings of this new outpost on the frontiers of science, he pressed boldly forward to occupy it. Its prominent idea may be stated as follows : If the arcus senilis do consist of fatty deposit, the result of degeneration of the normal tissue of the cornea, what connection has this local lesion with systemic fatty degeneration, and what with this disease in the several organs? If we find it even *generally* accompanying, as one manifestation, widely extended vice of the system, and especially that vice as laying its surely though slowly paralysing grasp on the essential organ of the circulation,—then we have this deviation from the normal standard, apparently trifling and harmless, *per se*, becoming of exceeding importance as a symptom, and a *diagnostic* symptom of another great, pernicious, and ultimately fatal deviation. To the solution of these questions Mr. Canton early devoted himself. In this first paper he states his queries and conclusions on the subject as follows: "It would be interesting to learn whether, in those cases of fatty degeneration of the heart, which have of late years been recorded as occurring under the age of forty, there existed in the eyes any trace of that appearance which is indicative of the like condition of the cornea. I have *in no instance* found this senile arc, when well developed, *unaccompanied by fatty degeneration of the heart*. I may remark, however, that it appears to me not an improbable idea that if the arcus adiposus be found in early life, or before the age of forty, its presence is likely to be recognized in persons whose hearts suffer from fatty degeneration." In his second article on this subject, in the next vol-

ume of the *Lancet* (I of 1851), he says, referring to the above quoted assertion: "Since penning these observations I have had frequent additional opportunities of inquiring into the subject, and find them to be more fully borne out by extended observation." A little further on he adds this important conclusion, "In endeavoring to establish the validity of this position, from frequent post mortem inquiry, I found that the heart is, of all other organs, the one which most invariably presents fatty degeneration where the arcus exists; and the extent of change in the cornea, I believe I have good reason to say, may be regarded as a *measure of the degree* to which the heart fibre has, in the same manner, become changed."

In the course of a few years this theory was adopted by many eminent pathologists, and we find Paget saying in his "Lectures on Surgical Pathology," "In short, the arcus senilis seems to be, on the whole, the best indication which has yet been found of proneness to an extensive or general fatty degeneration of the tissues." Mr. Barlow, before the Pathological Society of London, says, "It is always of importance to notice the presence or absence of the arcus senilis in cases of fatty degeneration. This form of fatty degeneration has already proved useful in diagnosing the like change in the heart. The arcus is the *only indisputable external sign* of true fatty degeneration, and, carefully interpreted, will be found in many difficult circumstances a clue to the destruction proceeding within." With this weighty testimony in favor of Mr. C.'s theory, in addition to his own elaborate and convincing articles, the subject could scarcely be considered as still open to argument, and the investigation of which this paper is the result, was undertaken not so much to test the validity of the claim, as to call the attention of members of the Society to so important a discovery, which has, as yet, I believe, received but little notice on this side the water. And I have thought that no way offered, more sure of attracting and deserving attention, than the arrangement, in the table form, of the statistics of those cases which have fallen under my notice. I may premise that the patients from whom these observations were taken are all of them colored, of more or less purity of blood, inmates of the Colored Home and its Hospitals.

A Tabulated Record of 72 Cases of Arcus Senilis.

No.	Sex.	Age	Arc.	History.	State of Heart.
1	Male.	30	Above and below.	Has phthisis pulmonalis. Rheumatic pains during the past 3 months.	A slight clack with 1st sound. Impulse normal.
2	Male.	30	Slight above.	Phthisis. Died May 18th.	Signs of enlargement with dilatation. Post mortem. — Large, soft, flabby, with some fatty degeneration.
3	Male.	31	Very marked above and below.	Rheumatic for 12 years. Incipient phthisis. Tongue flabby, and indented by teeth. Died suddenly of acute pleurisy, with effusion. Liver small, with patches of fatty degeneration.	Post mortem.—Heart large; large amount of fat anteriorly, less posteriorly. Decided fatty degeneration.
4	Female.	32	Slight above.	Was treated for anæmia, with blowing sound, a year ago, successfully. Now prostrate and anæmic to the last degree. Dyspnœa. Died April 15, in a fit of syncope. Incipient phthisis. Post mortem.—Kidney, fatty and cystic. Large fibrous tumor of the uterus. An unusual amount of normal fat. Liver, fatty degeneration throughout.	A peculiar clack heard with first sound, over aortic valves. Post mortem. — Heart slightly hypertrophied. No valvular disease. Pale, very flabby, utterly drained of blood. Considerable fatty deposit on anterior wall, and fatty degeneration.
5	Male.	32	Slight above and below.	Tongue flabby. Rheumatic for eight years.	Normal.
6	Male.	32	Circle.	Rheumatism occasionally for 9 years. Occasional pain in right side. "No hard sickness."	Slight blowing sound. Impulse strong.
7	Female.	33	Circle faint.	Sick, off and on, for 2 or 3 years, during which troubled with palpitations. Has had œdema of lower extremities. Rheumatic.	First sound abrupt, and with a clack.
8	Female.	44	Above.	"Has been sick ever since she was born." Palpitations for 3 years. Has had several fevers. Severe rheumatic pains.	Sounds weak, but normal.
9	Female.	45	Above and below. Marked.	Rheumatic since quite young. Has had ascites and anasarca. Very fat.	Second sound abrupt.
10	Female.	45	Circle broader at sides.	Subject to epilepsy. Had acute rheumatism 3 years since, now chronic. Œdema of lower extremities. Palpitations. An opium eater. Died April 24, of apoplexy. Post mortem. — A large clot on left side of brain. Arteries of brain extremely atheromatous. Kidneys atrophied and granular. Liver hypertrophied.	Sounds loud, but confused with bellows murmur.— Post mortem.—Heart hypertrophied.—Aorta and its valves atheromatous.
11	Male.	46	Circle.	Rheumatic for 20 years. A hard drinker.	Sounds and impulse very weak.
12	Male.	46	Below.	Intense rheumatic and neuralgic pains, especially about neck and arms. Rheumatic for 9 years. Has suffered from pains in the jecoral region. Very wakeful.	First sound rough. Action quick.
13	Female	46	Circle faint	Rheumatic for past year.	Normal.
14	Male.	46	Slight above.	Has had palpitations for 5 or 6 years. Great general œdema, now being reduced. Gangrene of toes, probably the result of arterial ossification.	First sound blowing over aortic valves. Second, sharp, abrupt, slightly roughened.
15	Male.	48	Circle. Marked	Rheumatic for 10 or 12 years past. Threatened with phthisis.	Normal.

A Tabulated Record of 72 *Cases of Arcus Senilis.* (*Continued.*)

No.	Sex.	Age	Arc.	History.	State of Heart.
16	Female.	48	Slight above.	Entered 2 months since, with debility, which has gradually increased, resulting in a decadence of the vital powers, and a lingering death without apparent cause. Treated as incipient phthisis. Post mortem.—Liver slightly fatty. Kidneys ditto. A large fibrous tumor of the uterus. Tubercles in lungs, and lymphatics in earliest stage.	Sounds indicate disease of aortic valves. Post mortem.—Heart small, slightly fatty, calcareous deposit above aortic and at base of mitral valves.
17	Female.	49	Above.	Rapid phthisis. Died Dec. 4th. Post mortem.—Liver large, light colored, fatty. Kidneys softened. Fibrous tumors of uterus.	Post mortem. — Heart soft, flabby, and somewhat fatty. Pale.
18	Male.	49	Above slight.	Usual health good.	Normal.
19	Female.	50	Circle. Marked broad.	Thirty-two years since had anasarca ; recovered under mercurial treatment. Palpitations for many years. Slightly rheumatic.	Pulse weak. Heart, impulse strong, action labored. Intermittence. Roughness of both sounds with abruptness of second.
20	Female.	50	Circle.	Rheumatic for 3 years : slightly so much longer. Ascites many years since. Now, œdema of lower extremities. Palpitations for a few weeks past.	First sound slightly roughened.
21	Male.	50	Above, broad but indistinct.	Has generally enjoyed good health.	First sound slightly blowing. Intermittents.
22	Female.	50	Circle. Very marked.	Rheumatic for six years.	Normal.
23	Female.	50	Above slight.	Palpitations for 5 years No rheumatism. Œdema and ascites a few years since.	Slight prolongation of first sound.
24	Male.	53	Circle dim.	Phthisis. Ascites a year since. Died June 22d, 1856.	Roughness of second sounds. Post mortem.—Large, pale, flabby, somewhat fatty.
25	Female.	55	Circle marked.	Has had a good deal of sickness. Rheumatic for several years. Had then palpitations, œdema of lower extremities, and wakefulness. Now much debilitated.	Impulse strong. Slight blowing with first sound ; second abrupt.
26	Female.	55	Circle very marked.	Hemiplegia. Rheumatic for several years.	Impulse strong. Loud souffle with first sound.
27	Female.	55	Circle very narrow.	Has had a good deal of sickness. Palpitations and dyspnœa on slight exercise. Until recently very wakeful.	First sound sawing over the mitral valve.
28	Male.	56	Circle.	Rheumatic for 7 years.	Normal.
29	Male.	56	Circle.	Rheumatic for 7 years. Tongue flabby ; marked by teeth.	First sound prolonged.
30	Male.	58	Circle dim.	Has had typhus. Now feeble and rheumatic. A hard drinker.	Roughness of second sound.
31	Female.	60	Circle.	Ascites at the age of 30. Rheumatism two years since.	Normal.
32	Female.	60	Circle very broad.	Rheumatic for 30 years. Troubled with occasional vertigo and palpitations.	First sound rough ; second abrupt. Impulse weak.
33	Female.	60	Circle dim.	Rheumatic for several years. Has had palpitations for some time.	First sound rough.
34	Female.	60	Circle dim.	Rheumatic for 20 years. "Cold rheumatiz." Palpitations.	Impulse weak ; irregular.
35	Female.	60	Circle very marked.	Rheumatic. Childish. Bowels excessively constipated.	Intermittent. Second sound rough.
36	Male.	62	Slight above and below.	General health good.	Somewhat irritable.

A Tabulated Record of 72 Cases of Arcus Senilis. (Continued.)

No.	Sex.	Age	Arc.	History.	State of Heart.
37	Female.	62	Circle dim.	Palpitations for 20 years. Considerable dyspnœa. Remarkable aneurismal developments. 24 on arteries above heart. Rheumatic for 15 years. Occasional œdema of lower extremities. Ascites 11 years since.	Loud sawing with musical whistle over tricuspid, and pulmonary valves, with 1st sound; less with second. Blowing over aorta; sounds somewhat blended. No interval.
38	Female.	64	Circle, broad above.	Severe attacks of fever. Rheumatism for 22 years. Since, ship fever, dyspnœa, with palpitations 11 years.	Sawing with both sounds over aortic valves; louder with 1st. Sawing with second over mitral valve.
39	Female.	65	Slight above.	No rheumatism or palpitations.	Normal.
40	Female.	65	Circle, m'rk'd but narrow.	General health good.	Sounds weak. Second abrupt.
41	Female.	65	Right eye, narrow circle. Left, slight upper arc.	Has suffered much from inflammation of right eye. None of left. At the age of 40, anæmic; supposed to be consumptive.	First slightly blowing. Second abrupt.
42	Male.	66	Circle dim.	Rheumatic for 6 or 7 years past.	Normal.
43	Female.	67	Circle marked.	Paralysis for 10 years. Health usually poor. Palpitations for 3 years. Has had ascites with hepatic derangement. Wandering pains since paralysis.	First sound prolonged.
44	Male.	69	Circle.	General health good. Now threatened with phthisis. Dyspnœa. Toper.	Normal.
45	Female.	69	Circle, broad, marked.	Fevers. Rheumatic from her youth. Palpitations.	First sound rough. Second abrupt.
46	Male.	70	Circle dim.	Phthisis. Previous health good. Somewhat rheumatic.	Blowing with first sound, and roughness. Second abrupt.
47	Female.	70	Slight above and below.	General health good. No rheumatism.	Normal.
48	Female.	70	Circle, broader at sides.	General health good. Slight insanity.	Intermittence.
49	Female.	70	Circle dim.	Fatty tumor on arm. Hemiplegia.	Normal.
50	Female.	70	Very faint, upper.	Has suffered much from articular rheumatism.	Normal.
51	Female.	70	V'ry white circle. No interspace of cornea.	Not much rheumatism.	Impulse strong.
52	Female.	70	Circle.	General health good. No rheumatism, dyspnœa, or palpitation.	Slight roughness of 1st sound.
53	Female.	71	Above, ext'nding below mesial line.	Fevers. Rheumatism. Formerly troubled with palpitations.	Impulse slight. First sound abrupt.
54	Female.	71	Above.	Twice salivated. No rheumatism. Palpitations and dyspnœa for 6 years.	Sounds normal. Impulse weak.
55	Male.	72	Circle.	Good health till an attack of rheumatism, a few years since.	Normal.
56	Female.	72	Circle dim.	Palpitations. No rheumatism.	Blowing sound slight, followed by a clack with 1st sound, heard over mitral valve.
57	Male.	73	Circle.	Rheumatic for 30 years.	Normal
58	Female.	75	Circle dim.	Rheumatic for upwards of thirty years. Vertigo.	Impulse weak.
59	Female.		Circle.	Rheumatic for several years. Occasional dyspnœa. Palpitations formerly.	First sound slightly roughened
60	Female.	75	Circle narrow.	Rheumatic for many years. Palpitations and dyspnœa.	Impulse weak. Sounds normal.

A Tabulated Record of 72 Cases of Arcus Senilis. (Continued.)

No.	Sex.	Age	Arc.	History.	State of Heart.
61	Female.	76	Circle very marked.	Rheumatic for 10 years. Palpitations for 2 or 3 years.	Second sound rough.
62	Male.	76	Circle broad above.	Fevers. At one time œdema of lower extremities. Rheumatism for 3 years.	Sounds and impulse weak.
63	Female.	77	Circle irregular on right eye; arc, on one side of left eye.	Little rheumatism or palpitation. Considerable ophthalmia.	Normal.
64	Female.	78	Circle.	Little sickness except rheumatism, 18 years ago. Palpitations and dyspnœa, with debility. Somewhat relieved by tonics.	First sound slightly rasping.
65	Male.	80	Circle dim, narrow.	Asthmatic for 2 years. Ship fever and cholera.	Slight roughness and abruptness of second sound.
66	Female.	80	Circle dim.	General health good.	Normal.
67	Female.	80	Circle.	Slightly insane.	Not determined.
68	Female.	80	Above slight.	No rheumatism or palpitations. "Hearty and well, thank the Lord!" Cataract in both eyes.	Normal.
69	Female.	90	Circle very marked.	Rheumatic for 8 years. Attributes it to salivation. Generally healthy. Fleshy.	Normal.
70	Male.	90	Above faint.	Died in a state of coma soon after admission. Liver nutmeg, not fatty to any extent. Kidneys slightly cystic, congested and softened.	Post mortem.—Very slightly fatty. Enlarged. Calcareous deposit on aortic and mitral valves.
71	Female.	100	Circle broad.	"Has had enough o' rheumatiz." Otherwise healthy.	Normal, but weak.
72	Male.	105	Circle marked.	General health good.	Slight roughness with first sound.

Synopsis of Tables.

Premature.—Number of cases under 45 years of age, 8 : Nos. 1 to 8 inclusive. Do. between 45 and 55 years of age, with marked arc, 12 : Nos. 9, 10, 11, 13, 15, 19, 20, 21, 22, 24, 25, 26, 27.

Number of cases with arc of local origin, 2 : Nos. 41, 63.

Number of cases with arc irregular, 6 : Nos. 10, 12, 46, 48, 51, 53.

Number of cases exhibiting abnormality in sounds or action of heart, 46 : Nos. 1, 2, 3, 4, 6, 7, 8, 10, 12, 14, 16, 18, 19, 20, 21, 23, 24, 25, 26, 27, 30, 32, 33, 34, 35, 36, 37, 38, 40, 41, 43, 45, 46, 48, 52, 53, 54, 56, 58, 59, 60, 61, 62, 64, 65, 71, 72.

Number of cases exhibiting palpitations or dyspnœa, 21 : Nos. 4, 7, 8, 10, 19, 20, 23, 27, 32, 33, 34, 37, 38, 43, 44, 45, 53, 54, 56, 59, 60.

Number of cases subjects of post mortem examination, 8 : Nos. 2, 3, 4, 10, 16, 17, 24, 70.

Number of cases subjects of phthisis pulmonalis, 8 : Nos. 1, 2, 3, 4, 16, 17, 24, 46.

Number of cases in which slight lesion of heart co-exists with slight arc, 9 : Nos. 36, 39, 47, 50, 51, 63, 66, 68, 70.

Number of cases in which marked lesion of heart co-exists with marked arc, not premature, 6 : Nos. 19, 20, 32, 38, 43, 45.

Number of cases the subjects of vague pains, 40 : Nos. 1, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 19, 20, 22, 25, 26, 28, 29, 31, 32, 33, 34, 36, 38, 42, 43, 45, 46, 53, 55, 57, 58, 59, 60, 61, 62, 69, 71.

It will have been noticed that age has been made the standard on which the classification has been based. This was deemed advisable, as showing more readily the distinction between the normal and abnormal cases, so to speak,—between those in which the arc is a sign of disease, and those wherein it is merely an accompaniment of age. Viewing them with regard to this point, it will be observed that of the whole seventy-two, eight (one-ninth of the entire number,) are below forty-five years of age. Now, forty-five has generally been considered to be the age at which the first faint outline of the arcus might be expected to make its appearance; not that we shall invariably see it at so early an age, but that in an ordinary state of things, it would not certainly appear earlier. To these we must add those in whom its presence is noted in a marked and advanced degree, as where we have both upper and lower arcs, strongly marked, or uniting to form a circle (or more properly an ellipse), while yet but a few years beyond this limit, (say for example ten years,) indicating, as it must be supposed to do, its origin at a date considerably antecedent to that which observation has determined to be the usual one. Of such, viz: those between forty-five and fifty-five, in whom the arc is strongly marked, and hence of considerable duration, we have twelve; which, added to the former eight, give us twenty,—an approach to one-third of the entire number, as the number of those in whom the arc was decidedly premature. The proportion is certainly a large one, and it is from this class that we are to gain the most information with regard to the point at issue.

I say then, that, in these cases, unless we can find some local cause for the lesion, we must suppose it to be the index of internal disease widely disseminated through the system; and according to Mr. Canton this disease is fatty degeneration, which has already attacked the most vital of all the viscera, the grand central organ of the circulation. The local causes which may give rise to this phenomenon, are inflammations of the various tissues of the eye, whether directly involving the cornea or not. It only requires that the circulation of the part be interfered with.

If merely of local origin, there will usually be some irregularity in its appearance, which will lead to this suspicion,

which the patient's previous history will decide. This irregularity may consist in a greater development in one eye than in the other, in a want of uniformity in its shape, presenting a broken, interrupted appearance, or in its situation in an unusual part of the cornea. Such cases are numbers 41 and 63. The former of these, Diana Lane, sixty-five years of age, presents in the right eye a circle complete, though very narrow for its entire circumference, and wanting that proportional increase of breadth above and below which should characterize the union of the two arcs; while in the left we have but a slight upper arc. Upon inquiry, we find that she has suffered from repeated attacks of inflammation in the right eye, while the left has always escaped. In the latter, then, we see the arc, as the index of the state of the system, developed in the usual manner, while that in the former has no such significance.

No. 63, Elizabeth Josephs, a woman of 77, shows, in the right eye, an irregular circle, composed of broken segments, and in the left, an arc, not in its usual place above, but on one side of the cornea. In this case, there has been ophthalmia of both eyes, at intervals, for a long period, though they are at present free from it. Neither of these arcs could be considered as formed in the usual manner, and they are not, therefore, indices of present vice in the system, but only of previous disease in the locality.

Without these or like evidences of local origin, we must consider the premature arc the only outward sign of an inward disease,—a disease slow often in its march, but as fearfully certain as it is slow, and as wearing and exhausting, if not as painful, as certain. I do not wish to be understood as confining its significance, as a sign of internal decay, to the young, but as supposing that in the aged the way has been prepared for this decay, by a diminution of the high pressure force which is brought to bear on all the organs during earlier life, by a decrease in the flow of animal spirits, and in the intense excitability and eagerness for excitation of the nervous system, which are the attributes of youth and early maturity. In being a natural process of decay, it ceases to be, in its results, though it certainly is in its essence, a disease. *Old age*, con-

sidered as a state of the system, *is*, in fact, with very few exceptions, *fatty degeneration*. The terms may be considered almost synonymous. In the *aged* we look for it, and its gradual, imperceptible invasion neither surprises nor alarms us. In the *young*, it is that much-to-be-dreaded, mysterious disease—premature old age; which has been the theme on which the *descriptive* powers of many an author have been exerted, but upon the *pathology* of which but little light has been thrown until recently.

The brisk step losing its elasticity, the bright eye its lustre, the roses fading from the cheeks and the cherry from the lip, the capricious appetite, the loss of mental energy and sprightliness,—days tedious and nights wakeful, timidity in place of courage, and nervous tremors where before was utter ignorance of nerves, the palpitating heart and quickly-spent breath; and all this without lesion, discoverable during life, of any important organ, with, in short, naught to account for it, have been described over and over again, in all the sad and mournfully poetic language that the subject deserves, and called premature old age. And that is exactly what it is. But that is only another way of saying that it is fatty degeneration, the effects of which are first made painfully apparent through the heart, as the most important organ, and that in which the first sign of eccentricity is most quickly felt. But a train of symptoms almost exactly similar to these, may undoubtedly be caused by divers other encroachments on the healthy state. How are we to know whether this melancholy procession be not headed by masturbation, chlorosis, excessive grief, or an obscure neurosis? Formerly it could not be known. Now we have but to examine the cornea, and if we discover the faintest appearance of the pale arc dimming its transparency, the matter is at once definitely settled. If we do not discover it, we are still in the same state of uncertainty that enveloped our diagnosis, as a thick mist, before we were possessed of this means of discrimination. We are not sure that the disease in question does not exist; for it may, in rare cases, proceed to some extent without impressing its stamp on the window of the mind. We are simply not sure that it does. The existence of the lesion clinches the argument and determines the diagnosis; its absence leaves us in doubt.

In some of these premature cases, I am able to give the direct and definite testimony of post mortem examination. In others the general health and sounds of the heart are the only indices to which to appeal for information as to the state of that organ. Of the former I have already spoken. It remains then, to inquire what are the physical signs to be appreciated by auscultation, to which this condition of the heart may be expected to give rise. Whatever be the form in which the deposition takes its rise (and Rokitansky recognizes three), the result will still be much the same, viz: diminution of muscular power, consequent on diminution of muscular substance and the interference of deposited matter; and the signs of this diminished power will be nearly identical with those of anæmia. These are generally recorded as an action and impulse, at first perhaps increased, afterwards diminished; rythm variable, generally more frequent; frequently the bellows sound in its various degrees, with great distinctness and sharpness of the sounds. This sharpness will be especially noticeable, if the muscular atrophy be accompanied, as is generally the case, with greater or less dilatation. Rokitansky says "the valves of the heart are at the same time thin and transparent, while the papillary tendons are softened." And again, and the remark has an important bearing on our discussion: "It is worthy of notice that the papillary muscles are sometimes especially and very extensively diseased, as they may give rise to endocarditic murmurs, and insufficiency of the valves, in consequence of inefficient action and tension." In one case which I examined, No. 70, the papillary muscles were almost the sole seat of disease, and a few of them were little else than fat. Another effect of this thinning of the valves and softening of the columnæ is, I think, a slight roughness, caused by the fluctuation of the thin and loose edge of the valve in the current of the blood, somewhat as a loose sail flaps and flutters in a head wind. One or all of these signs may be present in this state of the heart substance, or in the early stages they may none of them be noticeable.

From among the twenty premature cases, four (Nos. 2, 3, 4, and 10,) have been the subjects of post mortem examinations, and it will be seen that in every case the heart has been, more

or less, but decidedly, diseased in this way; though there is but one in which it could be supposed to have had any direct influence in producing death. I allude to No. 4, a young mulatto woman, Ann Scudder, who died in a fit of syncope. In this case, there was an extraordinary deposit of normal fat over the entire body, giving rise to a truly magnificent grace and rotundity of outline. This existence of large quantities of normal fat, in connection with fatty degeneration, is often seen, though rather the exception than the rule, emaciation being its more usual accompaniment. On this point, Dr. T. K. Chambers, author of the Gulstonian Lectures, on corpulence,* says, "It still remains to be explained why these two opposite states are so often associated together. It probably depends on some change in the condition of the circulating fluid associated with obesity, which renders the formation of fibrin more difficult, and allows the muscular fibre to undergo an interstitial decomposition into oily matter."

I have examined, this afternoon, the body of a man who died of rapid Phthisis. Before death a small upper arc had been noticed on both corneæ. The lungs were found to be filled with softening tubercles, and contained several vomicæ, but emaciation had made scarce any progress. The fat was somewhat in excess, the muscles full and florid, but the normal fat on the apex and right ventricle of the heart, was in considerable excess, and the muscular wall correspondingly atrophied, while the parietes of the left ventricle were considerably thicker than in health, being concentrically hypertrophied. The liver was quite fatty.

Of the remaining sixteen, we have evidences of disease of the heart, either rational or physical, in twelve, and the physical signs are such as we have just demonstrated are to be expected in fatty disease of that organ, viz: the blowing sound, an undue abruptness and clearness of the sounds, an action generally frequent and irritable, sometimes of increased, much oftener of diminished force, with a certain degree of roughness of one or both sounds.

In one case particularly, to which I have already alluded, No.

* Vide the London Lancet for 1850, Vol. II.

4, there was a very loud sound of the kind which I have called in the table a clack. It consists in a peculiar abruptness and clearness of the sounds, though in some cases, seeming to be separate, distinct, and subsequent to them. In this instance, there was neither obstruction nor insufficiency of the valves, merely thinness, with softening of the columnæ carneæ.

Four cases only remain of our twenty premature examples, and in these we have have no symptom pointing to the heart as the seat of disease. Of this number, the first, No. 5, is a young man 32 years of age, of heavy build, great muscular development, and extraordinary vigor of constitution. Referring again to Rokitansky, we learn, that in the first form of which he speaks, and which appears to be only the earlier stage of his second, "actual fatty degeneration," "the muscular wall of the heart in *young* men of *great muscular* strength, is found to be in a normal condition, but in persons of advanced age and in females, in conformity with the general character of the muscular substance, it is in general relatively thinner, more flaccid, discolored and paler." This heart is probably much in the state as that just mentioned as the subject of autopsic examination, viz: the walls generally thick and of a healthy hue, but with a slight degree of degeneration of the apex and wall of the right ventricle, associated with, though perhaps not the result of, an abnormal amount of vesicular fat on those points. The same remark will apply, though with much less force, to the last of the four, No. 22, a female of unusual natural vigor and energy, and decided corpulence. The disease is present, but so great are the nervous and capillary vitality as to resist its encroachments to any serious extent as yet. Of the remaining two, I can offer no solution; nor indeed is it necessary to the establishment of the proposition that I should.

We have still left by far the larger number of our cases, as among those in whom the arc has appeared, as might be expected, in the later years of life, when disease and degeneration become the rule, perfect health the exception.

These are persons, over fifty-five years of age, or between forty-five and fifty-five, in whom the phenomenon is very slightly perceptible. In these, if the theory hold true, we should find the ravages of time earlier shown, and a more frequent

display of heart symptoms in those in whom the arc has made the greater progress. Of these also, four have been the subject of post mortem examinations, and in every case have verified the prognosis of fatty disease of the heart. They are Nos. 16, 17, 24, and 70.

Now although the relation just mentioned, between the general health and the progress of the corneal degeneration is absent in many of the cases, owing to various idiosyncracies and other circumstances which might be expected to affect it, yet it does exist in a sufficient number to give strong probability to our conclusion, and in some it is sufficiently marked to merit attention ; for instance, Nos. 19, 24, 32, 38, 43, and 45. But a more remarkable feature in regard to those in advanced life is, the contrast which they offer to the more youthful cases, as respects the degree in which they have respectively resisted or succumbed to the onset of the disease. While we find in nearly every case of precocious arc, even slightly developed, all the evidences of lost health and early decline, we see, on the other hand, individuals far down in the vale of years, with a broad and distinct line of white, making the entire circuit of the cornea, who are yet enjoying a green old age. Compare, for instance, almost any individual of the twenty who afford examples of its early development, with the twenty last on the list, all of whom are upwards of 70 years of age, and the general good health and elasticity of spirits of the latter, becomes strikingly apparent against the dark background of debility, langour, inanition, and despair, exhibited by a majority of the former. Or to take individual cases, place Nos. 3 and 4, respectively 31 and 32 years of age, in whom was very strikingly exemplified the languor and utter inaptitude for exertion which characterize premature old age, and in one of whom no other probable cause of death could be discovered; place them, I say, side by side with the two whose names close our tables, both of whom have completed their centuries, and in whom we have, at least, the animal functions perfectly performed, and in one, considerable mental activity.

When it is stated that this whole number of seventy-two cases were selected from among certainly not more than one hundred and fifty individuals, while the twenty marked as pre-

cocious, were discovered among not more than seventy of a corresponding age, it will be acknowledged at once, I think, that the existence of this lesion is of much more frequent occurrence in the colored race than in the white. As to the cause of this disparity I propose to speak hereafter. What I wish to propose at present, is this: that in a collection of individuals in whom the presence of this phenomenon is so constant, negative cases acquire almost the force and significance of affirmative. That is to say, the coincidence of a remarkable degree of health and strength in the comparatively aged, with the entire absence, or presence in a very slight degree, of this index of decay, is as strong an argument as its existence in an advanced stage in those with whom time has dealt less kindly. Of such cases there are several in the tables. I may call attention to nine of them, Nos. 36, 39, 47, 50, 51, 63, 66, 68, and 70.

No. 63, a woman of seventy-seven years, exhibits comparative vigor, no dyspnœa or palpitation, the heart sounds perfectly normal, and this with the entire absence of any properly marked senile arc. No. 70, on whom an autopsy was performed, is also a striking case. It is thus recorded on my post mortem register: "Gabriel Deogo, aged 80, black, 20 hours after death, decided rigor, brought in comatose: died three days after admission. Heart not auscultated. Very faint upper arcs on both corneæ. Sectio. Thorax, Lungs, both congested. Slight pleuritic adhesions with a little effusion. A single cretified tubercle at lower edge of *right* lung. Heart, eccentric hypertrophy. Calcareous deposit on aortic valves. Dilatation of ascending arch of aorta with atheromatous deposit. No remarkable deposit of fat on the exterior, and but very slight fatty degeneration interiorly. Abdomen, Liver, large, nutmeg, not fatty. Kidneys, slightly cystic, soft, and congested." A certain old Peggy Munson too, has fallen under my notice, whose head the snows of seventy winters have not succeeded in whitening, and who, although somewhat crippled by inflammatory rheumatism, exhibits not the first sign of cardiac difficulty, and enjoys a more than ordinary degree of health, while her cornea is almost free from the stamp of age.

An index to the existence of fatty disease of the heart, has

of course a like bearing with regard to those lesions which are most frequently observed as concomitants of that disease. These may be noticed as dilatation of the heart, atheromatous deposit in the arteries, whether merely of the aorta resulting in dilation of its arch with liability to rupture, or through the entire system, as seen in aneurismal developments, and in rupture of the softened arteries in the brain producing apoplexy, or going on to ossification as perceptible to the touch in the radial artery, or by producing gangrene of the extremities. As regards the first mentioned of these, it is sufficient for me to remark in illustration, after having already adverted to the unusually and disproportionately frequent occurrence of the arc in the colored race, that, to give the lowest estimate, at least one-fourth of the bodies which I have examined, not under twenty years of age, since my residence in this institution, have presented specimens of dilatation of the heart. And my experience in that particular is corroborated by many of my predecessors, and by Dr. Fitch, the resident physician, whose fifteen years' experience with this people certainly entitles him to speak with confidence.

Atheromatous deposit, 1st, in the arch of the aorta, is illustrated in the case just cited of Gabriel Deogo, where there was a decided dilatation, with patches of atheroma thickly strewn along its course, occasionally themselves re-degenerated into bony plates. 2d. Through the entire system, resulting in aneurismal development, as seen in the case of Margaret Simpson, No. 37, where we have one of the most extraordinary collections of aneurismal tumors on record: there being not less than two dozen on the arteries above the heart; many of them of considerable size. 3d. Progressing to ossification as indicated by (*a*) the feel of the radial, which also is the case in the woman just referred to, and (*b*) by dry gangrene of the extremities, of which we have an instance in the case of Samuel Stevens, No. 14, who entered the Hospital in an almost semi-gelatinous state, so great was the œdema of the entire system, with dry gangrene of the toes of both feet. By a steady course of treatment his anasarca was entirely reduced, and the abnormal heart sounds much diminished in intensity, showing them to have been partly, at least, the result of want of tonici-

ty. 4th. In rupture of the cerebral arteries exemplified in the case of Eliza Smith, No. 10. This woman, the subject of epileptic seizures and an opium eater, died of apoplexy, four days after the occurrence of the lesion. The arteries of the brain were found to be in so remarkably atheromatous a condition that they were considered worthy of preservation, by a gentleman who has had a large experience in morbid specimens. A large clot was found in the left hemisphere. The paralysis in cases 26, 43, and 49, may perhaps safely be referred to a like cause.

While inquiring the histories of these cases, with a view to the investigation above recorded, my attention was early attracted, as I think any one's must be who glances at the table, by the very frequent existence, in those in whom the arc was found, of irregular, ill-defined muscular pains, such as would generally be put down as chronic rheumatism, yet with some doubt as to whether they are not, in some degree, at least, neuralgic. Every physician must have met with such cases, the pains annoying, difficult of relief, seated generally in the bellies of the muscles, causing more or less stiffness, sometimes tenderness, scarce ever accompanying or consequent on, not often in the subjects of, acute, articular rheumatism. Such pains pass under the common title of rheumatic, and as such, I have entered them in the table; but their occurrence, in so many instances, in conjunction with the fatty arc, and often in a degree of severity proportioned to its extent, has led me to propose the inquiry, whether these vague pains may not be the result of fatty degeneration of the muscles. That this disease may give rise to pain is, I think, a rational idea in itself, and Prof. Rokitansky gives it his support as follows: Speaking of that "form of degeneration" which "is characterized by the development of minute particles of free fat between the primitive muscular fibres," he says, "I once met with this disease in the muscles of the calf, in which it had given rise to considerable pain: this fact coincides with the experience of other observers."

I can conceive of no reason why pain should not likewise be produced by that form in which "adipose tissue or fat cysts are formed between the ultimate muscular fibres." In connexion with this subject I may call attention to an article by M. Beau

in the *Presse Medicale Belge*, Jan. 3d, 1856, translated for the AMERICAN MEDICAL MONTHLY, for March of this year, on the "Arthralgia of Phthisical Patients." "Under this term he comprehends settled pains in the limbs of phthisical patients." "These pains," he says, "show a decided preference for the lower limbs." "They are rarely confined to *the* lower extremity," or "to the thigh, leg, or foot, almost invariably occupying both lower limbs to their entire extent." "It is very difficult to localize these pains ; they affect the lower limbs in a mass, without our being able to fix their seat in the nerves, the muscles, or the osseous tissue."

The presence of these pains in many cases of phthisis must have attracted almost universal attention, and the description here given of them, is just such as would best describe those of which I am speaking, save that the confinement to the lower limbs is by no means so invariable as the author insists, though often seen. Now what are some of the facts with regard to fatty degeneration of the muscular tissue, bearing upon this point? 1st. "The muscles most exposed to it are the *voluntary* muscles, especially of the lower limbs.—*Rokitansky*. "It is met with in the substance of the heart and in the fleshy coat of the gall-bladder, but is most common in the muscles of the lower extremities."—*Ibid.* "This fatty metamorphosis does not only occur in the form of the abovementioned transition stage, &c., but likewise, independently of any such connection, and accompanied with general emaciation as the result of tuberculosis and tuberculous phthisis."—*Ibid.* "The fatty transformation of the liver is almost confined to phthisis pulmonalis."—*Dunglison*. "Anomalous pains are apt to occur both in this and the next stage of phthisis, in different parts of the body, which add greatly to the distress."—*Ibid.*

In addition to these facts, all strongly bearing upon the question, it appears to me that an argument is to be founded on the success of the treatment of many cases of chronic rheumatism so called, with iodide of potassium. Of the efficacy of an alkaline course in the reduction of corpulence, we have the very distinct and pointed evidence of Dr. T. K. Chambers, in the

aforementioned Gulstonian Lectures,* in the following language: "But there is one class of medicines so universally applicable to all cases of obesity, that I think a trial of them should never be omitted. The chemical affinity of alkalies for fat, point them out as appropriate alteratives in this complaint, and experience proves that they are suitable to the state of the digestive organs. The most eligible one is liquor potassæ, and it may be administered in much larger quantities than any other." Now if, as is undoubtedly the case, "the chemical affinity of the alkalies for fat" be the secret of their successful operation, why may not the affinity be as successfully exercised on particles of "molecular" fat, distributed in muscular tissue, (fatty degeneration,) as upon particles of "vesicular fat," constituting an abnormal amount of fat in normal positions (corpulence). Without for a moment questioning the value of the iodic element in this preparation, I would suggest that the alkalinity of the potassa, which certainly is not lost in the combination with another element as it would be with a salt, may after all be the chief agent in producing a cure in such cases. The increased efficacy which is imparted to preparations of sarsaparilla, and other vegetable eutrophics, by the addition of an alkali, in many cases of broken down constitution, is well known, but has not been, I think, satisfactorily accounted for.

With regard to the greater frequency of this disease in the colored race, which I think must be admitted, aside from the fact that their uniformly dark and brilliant iris, makes doubly noticeable its external evidence, in the shape of the white arc, standing out in bold contrast with its setting of jet, there are several reasons which may be assigned for it. First, it should be considered, I think, in connection with the great prevalence of tuberculosis, whether in the form of phthisis pulmonalis, or of scrofula, among that race. The coincidence of the two diseased states has been already touched upon; and I am not exaggerating when I state that one-third of the entire colored population of this section of country die of phthisis pulmonalis; while many, of course, affected with it, are cut off by other diseases,

*Lancet for 1850, Vol. II, p. 443.

before it has completed its fatal course. It will be noticed that six of the eight on the list, on whom autopsies were held, exhibited tubercular depositions in the lungs. Secondly, constitutional tendency would certainly be strengthened and the fatal result hastened by the course of life pursued by the great majority of them ; their privations, their exposures, their early and unintermitted sexual indulgence, all serve to weaken the vital powers of resistance to disease, and prepare the system to be most easily and readily affected by it. Thirdly, the immoderate use of their most fearful and deadly enemy, alcoholic stimulus, the efficacy of which in producing this disease, is testified to by all writers on the subject. To this we may add, fourthly, the enormous amount of fat consumed by them, generally that of pork. The mother's nipple is taken from the child's mouth, only to have a strip of fat introduced in its place, and the cry of the old man on his death bed is still for fat. Now it is well established that fat is most readily formed in the animal economy from substances themselves fat. Mr. Chambers says* " We are led to conclude : first, that the favorite material which nature employs in the production of fat is oleaginous matter." Witness the stuffing of geese with lard to form the *pates de foiés gras*, which so tickle the palate of the epicure, with their melting oleaginosity, and the fattening of stock on the oil cake. Now if normal fat in normal positions is thus formed most easily, why not abnormal fat in abnormal positions? And if the system be in a reduced state of vitality, its absorbents losing their efficiency in removing abnormal depositions, its secernents their skill in the proper selection of materials for proper tissue, what more natural than to suppose that the abnormal constituent most in excess in the blood, shall be the most readily deposited in abnormal situations, the absence of healthy vigorous action in which renders them more open to the reception of abnormal particles.

One fact noticeable in the tables still remains, after brief reference to which, I will trespass on your patience no longer. It will be seen that of the four females who were examined, three exhibited fibrous tumors of the uterus. I advert to this

*London Lancet, 1850, Vol. I, p. 17.

not as wishing to establish the senile arc as a sign of this form of disease also, but as illustrative of the manner in which different processes of degeneration may be going on in the same economy and under the same circumstances, and as showing how the deadly enemies of human life and human health, disease and decay, putting aside private differences and antipathies, often unite to march in solid phalanx on the citadel of their common victim, vitality.

A Eulogy on Amussat. Read before the Academy of Medicine, of Paris, by LARREY. Translated for the MONTHLY from the *Gazette Medicale* by M. DESLANDES.

The Academy of Medicine has just lost one of its oldest, most active, and most eminent members. He, however, had been received in her bosom amongst the youngest. Notwithstanding the obligations of a large practice, he was a regular attendant at your meetings; he had offered to the Academy the first fruits or the results of the greater part of his labors, and those labors bore always on important questions, abounded in fruitful ideas, and contained real discoveries, which I shall not call incontestible, to avoid here all allusion to debates which are far from us, and which, moreover, could not be renewed beyond the grave.

But worthily to appropriate the laborious and tormented life of him whose name, ever dear to science and to humanity, has just been inscribed on the necrology of the Academy, it would require something more than a funeral oration, simple homage of our remembrance and adieux offered to our honorable and regretted colleague.

Amussat (Jean-Zulima), Doctor in Surgery, member of the Imperial Academy of Medicine (section of operative medicine), and of diverse national and foreign learned Societies, Chevalier of the Legion of Honor, was born in Paris, on the 21st of November, 1796, at Saint-Maixent, department of the Deux-Sévres.

His father is one of those worthy provincial practitioners who know how to honor our profession by their character as

much as by their talents, and who practice medicine more as a mission of charity than a career of fortune.

Brought up in his family, young Amussat received from his father the elementary notions of the art, and completed them with Mr. Servan, a distinguished Surgeon of his native country. He manifested from the beginning, a decided taste for medical studies, and was pursuing them actively when the conscription came to suspend their course, and perhaps to arrest it entirely. There was only one way for him to conciliate the exigency of recruitment with the continuation of his career: it was to obtain a commission of assistant surgeon in the army. He was admitted in the month of January, 1814, at the age of 17, and left immediately to assist at some of the battles of the campaign of France. Young Amussat showed then, in the midst of the dangers of war, that courage and presence of mind which, later, were to distinguish him in the practice of the most perilous operations in surgery. Thus it was that, during the occupation of Rheims by a corps of the French army, he never left the wounded, heaped together in a church transformed into a hospital, where the crowding together of sick and wounded brought on typhus fever. He was himself threatened with the disease; but he never left his post before he had attended all intrusted to his care. Thus again it was, that, anxious to acquire notions of anatomy at the same time as surgical knowledge, he ventured to use his scalpel on some Russian subjects, but surprised in the midst of his dissections, by a detachment of Cossacks, he escaped their vengeance only through his firm and impassible attitude.

Like many other celebrated surgeons, Amussat made his first attempt at surgical operations on the battle field, where Roux, Lisfranc, Sanson, and others, had preceded him. But soon the campaign was at an end and the army disbanded; the young assistant, liberated from service, repaired to Paris, there to pursue his medical studies. He had but very small resources to live upon, and as he did not wish to remain a burden to his family, he manifested such an ardor for learning, that he attracted the attention of his first masters and gained their favor.

M. Troussel, his guide and his friend, assisted him in finding out the means of taking a part in the anatomical works at the

Salpêtrière. There it was that he met, for the first time, our eminent colleague, Mr. Rostan, who, from that period, never ceased to show him the greatest sympathy.

Amussat, at the end of his first year of study, had so well employed his time, that he was a successful competitor for junior assistant, and appointed at La Charité, where they gave him a lodging.

There, in the corner of an obscure and unhealthy amphitheatre, he spent whole days dissecting. His aptitude for pathological anatomy, attracted the attention of M. L'Herminier, who first attached him to his service and afterwards gave him his affection. Two years after, he was admitted as senior assistant at the Salpêtrière, where he extended and multiplied his anatomical labors. He made the autopsy of the greater part of the subjects left at his disposal. Then it was that, wishing to facilitate researches on epilepsy, and the supposed lesions of the spinal cord, he invented an ingenious instrument, adopted since and used in hospitals, under the name of *rachitome*.

It was at that period also that he began private teaching, to which he remained faithful during the whole of his medical life. His first course of lectures was on anatomy and designed only for some artists ; but it showed the importance of that study which has become the object of official teaching at the *Ecole des Beaux Arts*.

Encouraged from that time to go on, he established regular lectures at the Salpêtrière, but after a time the success of his lessons excited the jealousy of certain persons, and he was forced to discontinue.

But if he had lost favor, right was on his side. A place of Assistant to the Prosector of Anatomy became vacant at the Faculty, at the end of December, 1821 ; it was put to competition, Amussat obtained it, and resumed, doubled, tripled, his teaching, giving lectures on anatomy, surgical pathology, and operative medicine.

Carried away by his zeal beyond his strength, he was anxious of competing for the Prosectorship of the Faculty ; but a formidable accident prevented him. An anatomical puncture threatened him with purulent resorption ; hardly had he escaped it, than he was attacked with an acute dysentery that

put his life in danger. At last he recovered, but from that time his health was very feeble ; successive attacks of disease had shattered his frame, and he had to give up the struggles of competitions. He was, indeed, worthy of a place of Surgeon in one of the Hospitals of the Faculty. However, he was obliged to restrain his surgical ambition, and be satisfied with teaching and private practice.

Henceforth, indefatigable worker, he endeavored by constant labor to acquire, in an official teaching, the authority he wanted.

A notice of his scientific labors is sufficient to show all their value, and a rapid sketch of them in chronological order will be enough to bring them to your remembrance.

In 1822, M. Amussat published an essay on the possibility of passing through the urethra of man a straight catheter.

It is on these new data and their practical consequences in the breaking of calculus, that Amussat rested his claims to the discovery of Lithotrity. The more he tried to vindicate the initiative and intuition of that great discovery, the more opposition he met to the acceptance of pretensions he believed legitimate.

In 1823, his observations on the urethra of man and woman, led him to propose straight instruments in the catheterism, now called rectiline, for the extraction or destruction of foreign bodies in the bladder.

The same year, in a memoir on strictures of the urethra, and forced injections, he made five classes of the organic strictures of the urethra, founded on pathological anatomy.

In 1824, his researches on the biliary apparatus had for their object to demonstrate the mechanism of the reflux of the bile in the gall bladder.

In support of his experiments, Amussat exhibited before the Academy an anatomical preparation, the interest of which, added to that of his communication, obtained for him and his first labors a brilliant testimony of interest and esteem.

In 1825, his researches on the nervous system had for their object to demonstrate the disposition of the origin of the spinal nerves.

He explained in another work the communication of the veins with the lymphatic vessels.

In 1826, he brought before the Academy an essay on the anatomical relations of the epigastric artery in the different species of hernia, to which were added practical considerations on a powerful and graduated mode of taxis, of which all surgeons may make useful applications, but which requires much prudence in its use.

In 1826, he read his thesis before the Faculty of Paris, on the Study of Anatomy. He showed the utility of experiments on animals to learn physiology. This interesting essay is addressed to students, to spare them the difficulties which the author himself had encountered in his studies.

From 1827 to 1828, he was engaged in a series of vivisection experiments on traumatic hæmorrhages and the hæmostatic means now in use.

In 1829, he laid before the Institute an *exposé* of his researches on the torsion of arteries, and sometime after he read before that body a learned memoir on that subject. He had conceived the ingenious idea, in reflecting on the disadvantages of the ligature, and the curious phenomena of lacerated wounds in which hæmorrhage seldom take place.

Let us say, however, that he seems to have exaggerated the advantages of torsion, which will nevertheless remain a useful discovery, as it favors the immediate reunion of wounds, and facilitates the practice of operations performed unexpectedly, in the country or on the battle-field.

In 1832, a synoptic table of lithotrity and hypogastric cystotomy, dates the discovery of lithotrity from 1822, the epoch at which appeared his note on the possibility of using the straight catheter in the catheterism of the urethra.

He resumed and commented on this work, later, in a memorable discussion, at the Academy, on the comparative advantages of lithotomy and lithotrity.

In 1832, he published a table of the urinary concretions in man, classified according to their volume and their form, showing the difficulties met with in the practice of lithotomy and lithotrity.

Finding that, in many cases, lithotrity could not cure the disease, but that it might even complicate the accidents attendant on it, he adopted the high operation of lithotomy, and sim-

plified its consequences. He prevented urinary effusions by means of a curved gum-elastic canula, introduced through the subpubian wound to the bottom of the bladder, and giving free passage to the urine, without it being necessary to leave a catheter in the urethra.

In 1835, the suture of the intestines became for him the object of interesting researches, from the experiments of Travers on the circular constriction of the intestinal canal, to restore to it its natural calibre.

In 1835, also, experimental researches on traumatic hæmorrhages, marked out the distinctive characters of arterial and venous hæmorrhages, by showing the mortal effects of the introduction of air into the veins, and the advantages of the torsion of arteries.

The same year, an operation for artificial anus, successfully performed on a new-born infant, stamped the origin of the more complete labors of Amussat, on this important question.

An operation for artificial vagina, performed also with success, in 1836, furnished him with the materials of a work, read at the Institute, on the defects of conformation of the vagina.

In 1836, another memoir, read at the Institute, on spasm of the urethra, shows that it is not sufficient, alone, to oppose the introduction of a catheter in the bladder.

In 1837, he advantageously applied cauterization to the treatment of some urinary fistulæ.

In 1838, he recommended, highly, the use of platinum needles in the twisted suture, as offering more advantages than the others.

In 1839, in an important memoir on the accidental introduction of air in the veins, he gave a summary of a great number of experiments performed by him on living animals, and all the known or collected cases in man, during the course of certain surgical operations.

The same year, in a memoir entitled an account of Broussais' decease, followed by some practical observations on the obstructions of the rectum, he emitted the idea that the operation for artificial anus, according to Callisen's method is preferable to that of Littre, and in a second memoir he modified, advantageously, this method.

He often regretted not having been able to apply it in the case of the illustrious Physician-in-Chief of the Val-de-Grâce, whom he had been called upon to attend, and whom he had seen, so to speak, die from day to day.

The retroversion of the uterus in the state of pregnancy furnished him, in 1839, with the subject of a memoir, founded on two cases of unhoped-for success, and on the analysis of the known facts of the same kind, gave different results.

In 1840, in a memoir on the pathological anatomy of fibrous tumors of the uterus, he demonstrated the possibility of extirpating those tumors when they are contained between the walls of the organ.

Two cases, the only ones then known to him, in support of the above demonstration, gave rise to several new questions on the mode of extirpation of these tumors by torsion and by parcelling (morcellement).

It was also in 1840, that strabismus, and the operation applicable to this deformity, became for M. Amussat and Lucien Boyer the object of numerous researches, and the cause of every kind of tribulation.

Stammering, like strabismus, furnished M. Amussat with numerous opportunities of applying tenotomy in the treatment of this infirmity, but they threw stronger doubts still on the advantages attributed by him to this operation, and drew upon him bitter criticism and violent attacks, which painfully wounded his self-esteem and disturbed his rest.

To make diversion to these troubles, the same year, in a second memoir, read at the Academy, on artificial anus, he related new cases in support of Callisen's method modified, over that of Littre, and in 1842, he read at the Institute a third memoir on the same subject.

In that year, also, under the name of cicatrices d' allongement (long cicatrices), he proposed a simple process to prevent the retraction of the cicatrizing tissue, by vivifying every day the angle or angles of certain tumors.

In 1842, the destruction of internal hæmorrhoids, obtained by him by means of the ligature first, and then by cauterization, became, later, the object of an ingenious operation by the

combination of the ligature and simultaneous cauterization of the hæmorrhoidal tumors.

In a memoir read a short time after, at the Institute, on the mechanism of the course of the bile in the biliary ducts, he developed the idea emitted in 1824, before the Academy.

Lastly, again in 1842, in a memoir on the disposition of bloody tumors, and the effusion of blood which takes place after wounds of vessels, he demonstrated the existence of a duct, or conducting tract, in the middle of those sanguine collections, and the importance of seeking through this tract, the source of the hæmorrhage, or the divided vessels.

Here, gentlemen, ends the enumeration of the works published by our learned colleague. Their importance as well as their multiplicity shall, perhaps, no longer excite either jealousy or contest; for it is in the very originality of his works that we must recognize the true merit of that eminent surgeon. And this merit deserves so much more to be duly appreciated, that M. Amussat derived it neither from the sources of his first education, nor from the advantages of an acquired position, nor even from the chances of a future fame; but it resided within himself, in his innate vocation for surgery, in an inventive sagacity for the progress or perfection of the art.

Yes, gentlemen, let us now proclaim it aloud, now that he is no more, Amussat possessed the surgical genius which guesses, invents, or perfects what he has not created.

The summary of his works shall always put in relief his anatomical researches on the urethra, and the application of rectiline catheterism to the practice of lithotrity; his experimental investigations on the biliary apparatus and the course of the bile, on some points of the nervous system, on the anatomy and reduction of hernia, on the operation for artificial anus in the lumbar region, on the pathological anatomy of strictures of the urethra, on the extirpation of fibrous tumors from the uterus, on the torsion of arteries, on the entrance of air in the veins, on traumatic hæmorrhages, on suture of the intestines, on diseases of the urinary organs, and particularly on vesicular calculus, and urethral fistula.

Of all these works, those to which he attached most importance, as questions of origin or priority for the discovery of

lithotrity, were then his researches on the possibility of catheterizing the urethra with straight catheters. He has, even, published on that subject a summary exposition of historical documents, and a synoptic table, very extensive, where, the part belonging to him in that great question necessarily figures.

The history of the art has registered the chronology of the facts on the important discovery of lithotrity. It is enough.

Let us leave, gentlemen, to every one the merit of his works; let us not depreciate, after his death, as he was depreciated during his life, him who must nevertheless rank amongst the most ingenious and most expert surgeons of his time.

A skilful practitioner, having acquired early the celebrity attached to his name, he deserved so much more credit for having obtained it, that he could not support his experience or his authority on the title of professor at the Faculty, nor that of surgeon of a hospital, since he belonged neither to official teaching or hospital service.

As an operator Amussat was a great artist, passionately fond of his profession. He was possessed of that taste and tact which, in surgery, are the *coup d'œil* of skill. He united prudence to firmness, did not shrink from a difficult undertaking, but did not try to show off his talents, or to increase his reputation at the risk and peril of those who entrusted themselves to his care. He knew how to speak to them the sweet language of persuasion, to inspire them with resignation to the gravest and most formidable operations; and, better still, he knew how to spare them sufferings whenever the resources of art allowed him to fill the most salutary of all indications, that which so well attests the resources of nature, that which every surgeon should endeavor to attain by dint of care, patience, abnegation, and hope,—that indication which has deserved the so legitimate name of conservative surgery.

But if it was necessary to operate, his firm and skillful hand used, with as much security as success, all the instruments of his arsenal.

Several, invented or perfected by him, testify to the inventiveness of his surgical spirit. It is particularly in reference to the urinary organs, that we must mention the straight catheter, the *urethrotome*, the caustic-case, and the lithotritors, and many

other instruments, such as torsion pincers, pessaries, &c., which all bear the stamp of an ingenious idea, or of practical utility.

As a *savant*, M. Amussat had no pretension to erudition, but he was endowed with a rare patience and will, for the research or study of a subject. Persevering, obstinate in working, he followed an idea until he had arrived at experimental demonstration, without, perhaps, caring enough for the work already undertaken, with views analagous to his own.

The very originality of his works brought him just rewards. Thus, as laureate of the Institute, he carried several memorable prizes:

One of 2,000 francs for Lithotrity.
" " 6,000 " for the Torsion of Arteries.
" " 4,000 " for the Introduction of Air in the Veins.
" " 3,000 " for Lumbar Enterotomy.

Placed several times on the list of the candidates for the Chair of Surgery, at the Academy of Sciences, if he had not the honor of being selected, he had the satisfaction of having been judged worthy of it.

As a member of the Academy of Medicine, he received from her the noblest encouragements, the greatest reward of his first efforts, of his first labors, since he was admitted, and almost received with acclamations, in the number of her titulary members, before he had even obtained the diploma of Doctor.

But he never forgot the gratitude that was imposed upon him by that exceptional favor. He faithfully offered to the Academy the premises of his other works, of his new researches, and of his last operations, reading several memoirs, giving important communications, and making diverse presentations. Lastly he shed lustre on some of these memorable discussions.

As a professor, M. Amussat exercised himself in the art of teaching when he was yet only a student; and later, he gave lectures on anatomy, physiology, surgical anatomy, operations, and bandages, and experimental surgery, which were well attended.

He attached to the teaching of this last branch so just an importance, that he thought of making it the subject of a special work. He only sketched it, and furnished the elements of

it in his thesis, in his researches on traumatic hæmorrhages, and in his work on the introduction of air in the veins.

He had instituted at his own house surgical conferences in which he expounded his works and the results of his observations, to French or foreign practitioners invited at these weekly reunions. It is because I was present at several of them, that I am able, like many others, to appreciate all their interest.

In 1830, he gave a course of lectures on military surgery, for which he had asked of me some documents, with the idea of being useful to some of the young surgeons which were going to join the army in Africa.

As a man, Amussat was good and obliging to all, full of gentleness in his intercourse with his fellow-men, affectionate towards his pupils, benevolent to his *confrères*, even to those who did not like him or were jealous of his merits. He attached himself to his patients, and if he required much from the rich, he gave a great deal to the poor. He had at the beginning of his career, experienced embarrassment, privations, and having attained a fortune, well acquired by constant labor, he was generous and charitable, without ostentation.

Allow me to recall a well known fact, or rather a forgotten one, before bidding a last adieu to our excellent and so to be regretted friend.

In 1831, the widow of a most honorable physician, found herself reduced to indigence; she hardly dared implore the compassion of her husband's professional brethren; she addressed herself to M. Amussat, who first saved her from misery, and immediately conceived or accepted from an honorable *confrère* the idea of founding a mutual assistance association amongst physicians. He had a meeting with some of these, and his project was adopted without opposition. Statutes definitively constituted the association, which took the name of *Societé de prévoyance*. It lasted two years, and the good it was able to accomplish in so short a time, shows what could be expected from an institution established on a more extensive scale and officially authorized. The illustrious Dean of the Faculty accomplished this work, which he so well directed during the rest of his life; but let us not forget, gentlemen, that the foun-

dation of Orfila, is a work inspired by the happy initiative of Amussat.

As a friend, as a relation, Amussat was full of the tenderest feelings and devotion for his own family. He was first the support of his mother and his three sisters, which he treated as his own children, and whom he brought up and married. A model of filial tenderness and piety, he supported also his venerable father, now 90 years old, and destined to survive him if he is not dead on hearing the fatal news.

He leaves behind him a much sorrowing son, already known in surgery by useful publications. He will also be deeply regretted by his brother of adoption, who long had a share in his labors, his affections, and his griefs.

Oh, that he had long ago listened to the prayers of his pupils and of his friends, and taken the rest he needed.

M. Amussat died at the age of 50, on the 13th of May, in the night, after a few days' illness only, and almost without any other suffering than a gradual giving way of all his strength. Symptoms of diptheria and vesical paralysis showed themselves, it is true, in the last moments; but definitively he fell under the constant fatigues of that hard profession which kills so many physicians, exhausted in trying to make their patients live. He died as he had lived, full of courage and resignation.

Farewell, then, dear and excellent colleague. I wish a more authorized or more intimate voice than mine, had traced all the labors of your life, and expressed all the regrets that shall follow you to the grave, and offered to your memory a homage so well merited.

May I, at least, have been the interpreter of the Academy in this last adieu.

On the Impurities of Water and their Effects. By Dr. A. G. Lawton, of Lasalle, Ill.

Whatever may be the remote or the essential cause of epidemics, and especially of cholera, there is one thing tolerably certain, and that is, that the atmosphere and water are the grand mediums, through and by the agency of which, it is

brought to bear on, and against, the powers of life on the human constitution.

Water is capable of holding in solution eighty per cent. of vegetable and foreign matter. How much foreign matter the air is capable of retaining is uncertain, but the amount of foreign matter it is capable of holding in a gaseous form is no doubt very great under certain circumstances.

All the vicissitudes, changes, and variations which take place in the air, are instantly followed by corresponding changes in the water. These two elements are very much alike as to the part they play in the rise, progress, and decline of animal as well as vegetable life. Therefore, the study of the one is necessarily blended with a knowledge of the other.

The capacity of water to retain foreign matter in solution, depends very much on the hygrometric state and temperature of the air. In 1849, when the cholera first became epidemic in the southwestern United States, there were various conjectures as to its direct or approximate cause. Some supposing it to be induced by using lime water, others by animalculæ in the air, and others by poison emanating from the ground, &c., &c. The following facts may lead to something of value, or may throw some light on the subject.

The water of springs, wells, and streams, indicated an extreme variableness as to purity, from the beginning of the epidemic to its close. Water is, like the atmosphere, subject to changes, and agrees with the state and condition of the air, both as regards its purity and its capacity to hold foreign matter in solution. When the weather is hot and dry the vegetable impurities in water are thrown both up and down, but mostly down; and on the approach of rainy weather, clouds and storms, the impurities rise from the bottom of ponds, wells, and springs, being re-absorbed, and the water again becomes capable of retaining an increased amount of impurities in solution. Hence, a stagnant pool of water becomes a perfect barometer, by which we can predict an approaching storm, and also when rain and storms are about to cease, with perfect certainty, some days beforehand. Thus we shall find that a cloudy sky is always preceded by a cloudy state of the water; and the disappearance of this clouded state of the water is a sure

forerunner of clear weather. These changes are more decidedly conspicuous in stagnant pools of water, where the water lies in contact with decayed vegetable matter. In long-continued dry, hot weather, the water becomes perfectly clear, and when rain and cloudy weather are about to return the water assumes an opake appearance, produced by the rising of the impurities from the bottom. In long-continued dry, hot weather, the water in stagnant pools may become perfectly pure, so that it may be drank with perfect impunity for any length of time; but as soon as rain sets in, or the weather becomes cloudy, the water will, whenever the circumstances are favorable, become poisonous and unhealthy. And this is the case to a greater or less extent in wells, springs, and streams, or whenever there is vegetable matter in contact with the water, for it to act upon. This is the reason why epidemic diarrhœas and dysenteries always prevail most in wet and rainy seasons,—because in wet weather the water is poison, which poison takes effect on the stomach and bowels.

While I lived in Saline Co., Mo., in 1845, in order to test some points concerning the purity of water under different circumstances, I drank water from a stagnant pool six weeks, it being in very dry, hot weather. The water was clear and sweet, the taste was good, and it agreed well until the 38th day, during which time my health never was better. On the 38th day I noticed a slight dimness of the water, and something disagreeable in the taste; on the 39th, still more so; on the 40th day, the water showed some signs of being a little riled, and quite disagreeable in taste; on the 41st day, when I drank of the water it sickened me, as though I had taken a very little ipecac, and on this day the first signs of rain appeared in the sky; and on the 42d day the rain commenced, at which time, when I drank of the water, it came near vomiting me for some little time, and about 10 o'clock I had something like a chill, which lasted about two hours and passed off without fever. On the 43d day the rain continued, and the water sickened me more than ever; about 10 o'clock I had a more decided chill, which lasted about two hours, at the end of which time a severe diarrhœa set in, with more decided signs of vomiting, at which time I became alarmed and stopped

drinking of the water, and began to take medicine to counteract and to drive away the poisonous effects of the water, which it required three or four days to accomplish. I had fever on the two days after the second chill.

The experiment was satisfactory to me, however, and fully convinced me that all the poisonous matter which the water may have contained was on the bottom of the pond, until the air showed signs of an approaching storm and cloudy weather, which was four days from the time the water showed the first signs of an unsettled state till rain began to fall. One of these pools had a wet weather spring which run into it, out of which a family had used and drank water for ten years, and they had been generally healthy. Some logs being accidentally hauled through the pond riled the mud deep from the bottom, which had a very rank and offensive odor; yet the family continued to drink and use the water, and on the third day two of them took the fever, and on the fifth day after using this rily water there was not a well person in the house but a small child, and one of them died,—the fever being of a malignant grade, resembling some grades of typhus.

I have no doubt but that this fever was produced by drinking and using this water, it being loaded with poison from the bottom of this pond, which may have been accumulating there for years; for the pool had no outlet for most of the year.

In the fall of 1846, in the town of Marshall, Saline Co., Mo., the same thing occurred, only on a larger scale. They were in the habit of hauling water to drink and use in town, from one of these stagnant pools. While Court was in session, they hauled more than usual,—so much so that the water became very much stirred up from the bottom of the pool.

Towards night this water was drank very freely about town, especially just before and after supper. Soon after supper, the people began to fall sick with excessive vomiting and purging, and in a few hours there were found to be about seventy persons on the sick list, besides many who were affected in a less degree,—it being nearly all who had drank of this kind of water. In these cases, the water being highly charged with deleterious matter, it took effect suddenly, like an overdose of corrosive poison; and so sudden and alarming were the attacks

that the patients actually believed, at the time, that there had been arsenic put in the water by some unknown person. Although medical aid was at hand, yet many of the patients had fever on the next day, which continued on some for a week or ten days, and some of them remained pale and feeble for many weeks. The time which elapsed from the time the poison-water was drank till fever set in, was 24 to 48 hours, according to my notes, made a few days after the time.

In these cases, had the water been less highly charged with poison, and the effects less sudden, and had sickness followed at some later date, the water would never have been suspected of being the primary cause.

There are many springs that contain so little of this poison, that it is often used for a long time with impunity, yet all at once the water becomes highly charged with poison from some peculiar change in the weather or season, and sickness follows; but they know not from whence it springs. There are many springs in the southwest, the water from which, while the weather is cloudy and rainy, always sickens me when I drink of it, and sometimes it will produce vomiting; yet, while the weather is clear and dry, it has all the taste and appearance of good, and passes for such by those who use it. This kind of water is to be found, more or less, throughout the southwestern country, and especially on the lowlands and fertile prairies. The water is affected by the hygrometric state and temperature of the air, and very likely by the electric condition also, and by passing through a very rich soil, with an overgrowth of vegetation, constantly in a state of decay, it absorbs and carries with it more or less of decomposing vegetable matter, whenever the circumstances of the weather are favorable for it to do so. More especially was this the case in the late epidemic cholera.

As early as May, 1849, I accidentally discovered that there was an unusual amount of impurities in the water of wells, springs, and the streams in Missouri and along the Mississippi river; but I thought but little of it until I came to Lasalle. On arriving at Lasalle, I was very much surprised to find an ounce vial nearly half filled with a cotton-like, floculent substance, after putting into it five grains of lunar caustic. The

most of this, as near as I could judge without a chemical test, was vegetable. The water here continued to show an unusual amount of this impurity until the cholera subsided, after which the water in Lasalle was found to contain nothing but a little lime and gypsum.

In all the districts which I visited in Mississippi, in '49, while the cholera prevailed to a great extent, the water contained an unusual amount of impurities. But not knowing how much of these impurities it contained in its normal state, these experiments are of no valid use. Precisely so is it with many parts of Missouri, Illinois, and New York, hence I shall only speak of it in Lasalle and its surrounding country.

The water of wells, springs, and streams, in Lasalle and its surrounding country, showed an increased amount of vegetable impurity, beginning about fourteen days or less, before each annual visitation of the epidemic.

I noticed that whenever the waters had acquired and held in solution a certain amount of foreign matter, diarrhœas and bowel affections set in, and whenever the water had attained to a still higher grade of impurity the cholera made its appearance; and furthermore, that the grade and intensity of the disease ranged in accordance with the amount of impurity found in the water, and whenever the water dropped this impurity suddenly, the cholera subsided equally as suddenly. So that if this phenomenon shall prove true, and continue to hold good in future with other epidemics of the same class, and under the same circumstances, as it has in this past epidemic cholera, then it will give us a sure and certain rule by which we can judge or tell beforehand when we may expect a visitation of an epidemic of this peculiar class, and also when it is about to subside. I think it will hold true, for in 1855, in May, the impurities in water began to accumulate, and continued to increase for a week, at which time lunar caustic threw down nearly as much impurity as it had at any former visitation of the disease, immediately after which the cholera was reported along the Mississippi river, at St. Louis, Rock Island, and some other places in an endemic form. Bowel affections were common here, and some deaths; and four or five cases resembling cholera occurred here, being brought from the South, of which

four died suddenly. At this time the impurities in the water began rapidly to disappear, and in three days they were all gone; after which there was nothing found in the water but a very little lime and gypsum,—impurities common in all hard water, and especially here at Lasalle. After this there were no more signs of cholera in all this country, nor has there been up to this time, nor anything very closely allied to it.

I have kept a record of the weather for twenty years, during which time I have been a close observer of the various kinds and quality of water, for my own amusement; and it is only within the last ten years that I have thought of turning these observations to any useful account. But now it is my opinion that if these observations are followed up, as they ought to be, by medical men, the result will be the discovery of some important valuable truths.

The most important circumstance concerning the self-purification of water, occurred in the water of the Illinois river, on the 4th, 5th, and 6th days of July, 1851. The wind had blown from an easterly direction for a long time; thermometer ranging from 60° to 86°; the cholera being decidedly epidemic at the time, though a little on the decline. At midnight the wind changed to the southwest. At 4 o'clock in the morning, the ferryman, in attempting to cross the Illinois river, found the rope so completely loaded with slime that it took him a long time to clear it so he could cross. At 11 o'clock he informed me that he had then crossed four times, and found the rope loaded with slime every time, to the amount, sometimes, of eight or nine hundred pounds.

On examining the water I found it very much clouded, and appeared to be undergoing a process of self-purification. There was constantly forming in it masses of various colored slime, which collected in strings and bunches, like the slime which sometimes collects on springs of water. It seemed to fall down in the water like snow; it was white, green, gray, and yellow, and as it lodged on the rope of the ferry, it hung over the rope two and three feet long. The water had a turbid appearance, as though some reagent had been thrown into it, being dark and clouded.

This process continued three days, at the end of which time

the water began to assume its native transparency, soon after which it became perfectly clear, and much more transparent than before. One thing worthy of note is, that the cholera continued up to this time, when it disappeared suddenly, and returned no more that year in the town of Lasalle.

It is an universally admitted fact in the southwest, that river water is more healthy to drink than water from wells or springs, and the reason is obvious; the river water, by being exposed to air and solar heat, undergoes a process of purification as above stated. Yet I must confess that this phenomenon, above spoken of, was on a larger and a more magnificent scale than I ever saw before. Because, I suppose, the water held at this time a far greater amount of impurities in solution. This, I think, shows very plainly that this tendency of water to take up and retain in solution an increased amount of foreign matter is in some way connected or concerned in the propagation of epidemics under certain circumstances, and especially diarrhœas and cholera.

Long continued dry, hot weather will put a stop to cholera with nearly as much certainty as heavy rains will put a stop to epidemic fevers at the end of a dry, hot Summer. These two diseases are engendered by the two extremes, although they are both produced by the same invisible poison, or, as some say, state of the air; yet they are brought in contact with human life under different circumstances, hence the effect is made manifest to us in a different form. In one case we get the effect of the poison by the water, which has its effect on the stomach and bowels; in the other case we get it from the air, which takes effect by or through the lungs and skin. Hence the result of the former will be diarrhœas and the like, while the latter will result in a class of diseases denominated fever,—each one being governed by its own peculiar hygrometric state and temperature of the air, and other circumstances. It is very likely that electricity is in some way concerned, or governs in some degree the purity or impurity of water and the air; but how, or in what way, we do not as yet understand.

Spring and well water always contain more or less foreign matter, or impurities, and the healthfulness of the water depends upon what this impurity consists of, and the quantity it

may contain. These impurities generally partake measurably of the soil, vegetation, and the under strata of the ground through which the water flows. Many cold springs are transparent when the water first runs out of the ground, but as soon as it is exposed to warm sunshine it assumes a turbid appearance, or a darker hue, and sometimes it becomes quite milky in appearance. When this is the case the water contains a large quantity of vegetable impurities, and oftentimes of a poisonous character.

A good way to test this kind of water, or any cold water, when there are no other means at hand, is to dip up a glass or pitcher full and let it stand during hot weather. If the water is bad, it will show an increased opacity, and a more disagreeable taste, and after it has stood a few days a greasy-looking scum will be found on the top, and slimy sediment on the bottom, at which time the water becomes again clear as at first, and sometimes more so ; and this result will be in proportion to the vegetable impurities contained in the water.

All water has a tendency of itself to throw up and down all foreign vegetable matter after being brought together in large bodies, whenever the hygrometric state and temperature of the air is favorable for it to do so.

As a general thing this process of self-purification of water is constantly going on in water as fast as it becomes exposed to the air in warm weather. Hence some very impure water may pass for good water, because the most of the impurities fall to the bottom, or float off in scum, while the water is standing in the spring or well before being taken out.

But it seems that under certain circumstances the laws of self-purification of water cease, or are suspended, as was the case in the late epidemic cholera, and the water retains its impurities, and also acquires an increased power to absorb and retain in solution an increased amount of foreign matter. For the water in all the cholera districts showed an increased amount of impurities as the cholera advanced, and whenever this impurity in the water disappeared, the cholera also vanished at the same time, or soon after.

In 1849, while the cholera was worst in Lasalle, the fish died in great numbers along the Illinois river, and the same thing

was noticed in some other streams, which shows plainly that the waters of cholera districts at that time contained something unusually unhealthy and poisonous, and that it was in some way connected with the epidemic then common in our country.

And many people who eat of fish taken from these waters at this time, took the cholera soon after and died, of which I could give some decided cases if space would permit.

LASALLE, July 28, 1856.

REVIEWS AND BIBLIOGRAPHY.

"Nullius addictus jurare in verba magistri."

Physical Exploration and Diagnosis of Diseases affecting the Respiratory Organs. By AUSTIN FLINT, M.D., &c. Philadelphia: Blanchard & Lea. 1856.

"Whoever undertakes to write a didactic treatise, in effect, assumes that he is competent to the task." So writes the author in the preface of the work, whose title we have placed at the head of this article. A competency for such a task necessitates clinical experience, rigid analytical power, and a habit of observation which can only be obtained at the bedside. We are prepared to grant this combination of faculties to Dr. Flint, for his previous labors give evidence of the close examination to which he subjects the large number of clinical cases which have fallen under his charge, and show that he possesses that precision and exactitude of analysis which is requisite for such an undertaking.

At this day, no one who is at all familiar with the subject of physical exploration, doubts the precious aid which auscultation and percussion furnishes to diagnosis. Coming as it were, almost complete from the hands of its discoverer, auscultation of the respiratory organs has until lately received but few modifications or few additions to the rationale of the signs as originally developed by Lænnec. Recently, however, from the school of Vienna, new views have been promulgated, which have thrown some discord into the minds of students, and gaining credence, have caused the views of Lænnec to be subjected

to a new scrutiny, and have instigated new experiments and new analyses.

The volume before us is partly the result of this spirit of criticism and progression upon the part of Dr. Flint, and although in addition to the experience of the author, we find a most admirable *resumé* of the opinions and theories of all the principal writers upon the subject, yet we discover no blind adhesion to theories because they are old, or have the stamp of a celebrated teacher; nor yet a skeptical mention of a novel idea, because it is novel, but all questions are stated fairly and examined dispassionately.

The introductory chapters of this work are devoted to the Anatomy and Physiology of the Respiratory Apparatus, and to the Topography of the chest. In this latter respect, the usual divisions have been adopted following Walshe and other writers prior to him.

The principal portion of the volume is divided into two parts. The first treats of the physical exploration of the chest; the second is devoted to the diagnosis of diseases affecting the respiratory organs.

In the first part the various methods of physical exploration are successively examined, and it is in the general remarks attached to this part, that we meet a bold refutation of the depreciatory arguments of those, who, not able to discern the delicate teachings of this means of diagnosis, condemn it entirely; or, if possessed of that cultivation of ear, consider the signs furnished by physical exploration as representing definite conditions, requiring no further effort of mind than the mere appreciation of the sounds. Hence many errors arise and much mistrust is begotten. To such, our author says: "According to this view, physical exploration is merely a mechanical art. This is implied when *symptoms* as distinguished from *signs* are called *rational*. The inference is that to determine the value of signs, processes of reasoning are not required; that they express in themselves their full import, and that the ability to discriminate different diseases thereby depends mainly on manual tact and the cultivation of the senses. The student should as soon as possible, dispossess the mind of this error. Few signs, individually, are pathognomonic. Their diagnostic signifi-

cation depends on their combinatin with other signs, and on their connection with symptoms. Hence, something more than delicacy of hearing and skilful manipulation, is requisite. Thought and the exercise of judgment are needed, not less in determining the nature and seat of diseases by their *vital* phenomena. In short, physical exploration develops a series of facts which are to be made the subjects of ratiocination in their applications to diagnosis, as much as facts obtained by other methods."

Doubtless much depends upon skilful manipulation, for no one, who has witnessed the manner in which Piorry makes his pleximeter reveal sounds which are impossible to others, can hesitate to award to him great manual dexterity; but this alone does not constitute the worth of the great diagnostician. The senses are intensely cultivated, so that a greater number of signs are furnished by them, for the higher faculties of the mind to arrange and convert into a series of reasonings which lead to a correct diagnosis.

Dr. Flint in pursuing the subject, investigates the sounds elicited by the percussion of a healthy chest, and in this way prepares the student for the study of sounds found in disease. Each region of the chest is separately considered and the healthy sounds described as regards their vesicular quality, pitch, duration, and degree of intensity. The two sides of the chest are compared, and as they are usually considered symmetrical, any deviation from this equality is attempted to be shown. There are some anatomical differences of the two sides pointed out, and the sounds which necessarily result are given.

Heretofore, any deviation of sound upon one side from that of the other, when compared together, they being regarded practically as symmetrical, has been considered an evidence of disease. Our author has found among twenty healthy chests examined for this purpose, twelve cases showing a disparity of sonorousness in the infra-clavicular region, which is the region most frequently examined, especially in cases of incipient tuberculosis or of suspected phthisis. The results of his examinations are thus summed up by him: "It thus appears that in the majority of persons in health, having well formed chests, there is not an absolute equality in the resonance existing at the

summit of the chest in front on the two sides. It appears that as a general rule the disparity consists, in a greater degree of resonance, more vesicular quality, and relative lowness of pitch on the left side." "Theoretically, in view of the greater capacity of the right chest, it would seem perhaps more reasonable that the difference between the two sides should be the reverse of that which is found to exist. The larger development of the right pectoral muscle, in consequence of the greater use of the right upper extremity, may account for the fact in some instances, but the disparity exists in cases in which there is no apparent difference in the muscular covering in this situation. Possibly the different physical conditions at the base of the thorax may afford an explanation. On the right side the lungs repose, with the diaphragm intervening, on the liver, which occupies the whole of the base on that side. The presence of this solid viscus may slightly deaden the sound. On the left side below the lung is situated the stomach, frequently more or less distended with gas, and the effects of this, it may be supposed, is to increase the sonorousness on that side, even at the summit, independent of the transmission of the tympanitic gastric sound which is sometimes observed."

These views are so dependent upon observation, that we can only offer as our hope that the analysis of a greater number of cases may be added to give them still stronger confirmation. Results such as these, so different from the general received opinion, require a greater number of cases and a greater proportion than twelve out of twenty. It shows however, how requisite it is, to enter the field of observation without the bias of a preconceived theory. The explanation does not altogether suffice, but it matters little if such are really the facts. These are important, as this region is the one most frequently examined, and such an existence of sounds materially alters the appreciation of the signs in cases of suspected phthisis. We shall look for a confirmation of these views by a strong array of facts.

In the scapular region, corresponding behind to the infra-clavicular region in front, there is not as great a disparity in sound between the two sides, yet when it does exist, "the general rule is the same, viz: less sonorousness and a higher pitch on the right side."

The "line of hepatic flatness," varying with inspiration and expiration, and thereby showing the breathing capacity of the individual, is dwelt upon under the heads of the mammary and infra-mammary regions. This line is the lower boundary of the lung, and is an important point in examining the right side. The observations upon this point are very interesting, and the results of the author's many observations, are very instructive.

Upon the question whether each organ has an especial sound, as is asserted by Piorry, and denied by Skoda and Walshe, Dr. Flint thus remarks: "The question may be settled by the result of examinations practised on living and dead subjects. Facts thus obtained undoubtedly establish the existence of distinctive sounds, by which the sites of the different organs may be determined, and their boundary lines often mapped out. For example, the sound produced by percussing over the liver, differs obviously from that elicited over the heart: the latter is less flat and higher in pitch. It is highly probable that this difference is due to the disparity in size of the two organs, and the parts in juxtaposition rather than to intrinsic peculiarities of the organ alone." We can hardly tell which view Dr. Flint receives, as he admits the difference in sound, and yet does not altogether believe that it is owing to the organ itself. We should be glad to have something more positive from one who has investigated the subject so industriously.

If a healthy chest be percussed it will give to the finger an impression of elasticity, of resiliency, of a rebounding which cannot be described, but which, once felt, will always be remembered. To draw a comparison, it is only necessary to percuss the healthy chest under the clavicle, and then over the region of the liver. The difference in the tactile impression will be immediately perceived; the one will give the true elasticity of the chest, the other will offer a certain degree of resistance. This method of exploration under the term of *sense of resistance*, is dismissed by Dr. Flint in a very few words. We are the more surprised at this, because in early tuberculous disease, we consider it as a very important sign, which confirms or corrects the other evidences revealed by percussion, and which, added to auscultatory signs, increases the value of physical exploration. This sense of resistance is sometimes the first sign

which attracts the attention, before any marked percussion-sounds are observed. Walshe attaches great value to its revealings. "There are cases," he says "of not very rare occurrence, in which erroneous inferences would almost inevitably be drawn from the sound elicited by percussion, were these not corrected by the information derived from the degree of resistance felt by the fingers." The different degrees of resistance perceived by the fingers upon percussion, were first pointed out by Piorry, who places much reliance upon it as a diagnostic sign, and in our own hands it has always been regarded as a very important indication, deserving of more attention than is usually given to it.

Having studied the sounds produced by percussion in the several regions of the healthy chest, the author develops the subject in reference to morbid signs, furnished by percussion in disease. These sounds are studied in their deviation from the normal standard as regards intensity, quality, pitch, and duration. The author's division does not materially differ from that proproposed by Walshe and others being the same thing under a different word-rendering, with a slight modification or adaptation of some views from Skoda. There is in this section, a happy blending of the views of these authors where they do not diametrically oppose each other, and an attempt is made to simplify the nomenclature which is greatly to be desired. Difficulty is always experienced by writers to express by a single word all that is desirable, and hence all nomenclatures are faulty and open to criticism, yet it would be difficult to find one more simple and less faulty than that adopted by Dr. Flint, which is as follows :—1. *Exaggerated vesicular resonance ;* 2. *Diminished resonance or dullness ;* 3. *Absence of resonance or flatness ;* 4. *Tympanitic resonance.* The first three are not practically different from the first three of Walshe, but we decidedly prefer the terms used by Dr. Flint, as being terse, simple, and more readily appreciated by the student. Vesicular resonance being considered as the true pulmonary percussion sound, these divisions include all the varieties of sound which preserve this pulmonary quality down to absence of vesicular resonance, while all other sounds which do not have reference to the vesicular resonance, are included under one general head, that of *tympanitic reso-*

nance. These being alterations in quality are non-vesicular. Other writers have made many sub-divisions of this class, but Dr. Flint, with a practical consideration, adopts but two: *amphoric resonance*, and the *cracked-metal sound.*

Under each of these divisions the author points out the principal diseases in which the percussion-sound is found, and gives its diagnostic value. When upon the subject of tympanitic resonance, the fact of a diminuation of sonorousness occurring in some cases of emphysema with great tension, is adverted to, and the theory of Skoda, who first pointed out this fact, is criticized. Skoda calls this a non-tympanitic sound. "But," says Dr. Flint, "by this expression is meant simply that the loudness and clearness are diminished. Using the term tympanitic as applied to an altered quality of sound, the statement of Skoda is incorrect, inasmuch as with the diminution of sonorousness under these circumstances, the vesicular quality is not increased." This simply as a criticism upon a term, seems just, for the word non-tympanitic does not suggest anything by itself. Another process of thought is necessary in which the character of the tympanitic sounds must be first considered, before an idea can be had of a non-tympanitic sound, and then this sound has no special signification, except in contra-distinction to the tympanitic.

Dr. Flint, in closing the chapter on percussion, gives a summary of the principal points developed in its pages.

The same plan pursued in relation to percussion, is adopted in the chapter on auscultation. The means employed, and the manner of employing them, in the study of auscultation, are first presented, and then the author passes on to the subject of auscultation in health. The physiological phenomena incident to the respiration, to the voice, and to the act of coughing, are separately examined. The respiration is studied in both acts of inspiration and expiration, in the several anatomical regions of the trachea, the larger bronchi, the smaller bronchi, and vesicles,—and the phenomena of each act of respiration in each of these regions, separately analyzed, and contrasted with each other. The phenomena noted in forty-four healthy persons, in the region of the trachea, are given as follows: "A sound of inspiration and expiration; both having a tubular quality;

both higher in pitch than the vesicular respiration; a short interval separating the two sounds; the expiratory sound more intense, longer, and higher in pitch, than the inspiratory." Dr. Flint does not find any notable difference between laryngeal and tracheal respiration, except in intensity, and when this existed it was found less intense over the larynx than over the trachea.

The sound which is produced by respiration in the bronchial tubes, previous to their entering the lungs on either side, is called the bronchial respiratory sound. It is tubular in quality, —differing in this respect from tracheal respiration only in degree of intensity,—and is, in addition, modified by the vesicular respiration. The result of Dr. Flint's examination of forty-seven cases is, that, "of a given number of individuals, in one-half we may expect to hear an inspiratory and expiratory sound in front, and in two-thirds behind. When a sound with both respiratory acts is found on one side, and not on the other, it is invariably on the right side. When there is a difference of intensity in the respiratory sound between the two sides, the greater degree of intensity is found sometimes on the right, and sometimes on the left side, the proportion of instances being not far from equal. The pitch of the inspiratory sound is generally greater on the right side and almost never on the left. In some instances, also, the inspiratory sound is more tubular in character on the right than on the left side. The reverse of this is not observed. The expiratory sound is sometimes more intense than the inspiratory. When this is more marked upon one side than on the other, it is on the right side. The same remarks will apply to prolonged expiration. The pitch of the expiratory, as compared with the inspiratory sound, is higher. To this rule there are occasional exceptions, occurring only upon the left side. A striking contrast between the two sounds in pitch is characteristic of the bronchial respiration of the right side. When the sounds are heard with the two respiratory acts, a brief interval occurs between them."

The last division of respiratory sounds, the vesicular respiration, is also considered as a mixed sound formed in the cells, and in a measnre in the bronchial tubes, and also affected by the sounds transmitted from the trachea. It is not tubular in

quality, but has a *soft*, *breezy* character, which distinguishes it. This quality of vesicular respiration belongs to the inspiratory, and not to the expiratory sound. Dr. Flint carefully examines the sounds indicated as vesicular, and compares them with the phenomena of tracheal and bronchial respiration. Their distinctive characteristics are arranged in tabular form, and contrasted with each other. In analyzing the two acts of respiration, in vesicular respiration our author investigates them in the several regions of the chest, as indicated under the head of percussion, and comparison between the two sides of the chest is instituted, and the differences noted. The results obtained by Dr. Flint from the numerous examinations he has made, are so different from the experiences of other writers, that they merit especial attention. We cannot doubt the fidelity of observation of Dr. Flint, nor can we prejudge the manner in which the observations have been made, yet we cannot assimilate the wide discrepancies of previous writers with the results obtained by our author. Dr. Flint supposes that "elevation of pitch has been mistaken for increased intensity," and it is through this error, he thinks, that previous writers have been misled. This can hardly be, for although but little stress has been laid upon the pitch of sound as a diagnostic sign, until Dr. Flint published his "Essay on Variations of Pitch," &c., yet both Walshe and Skoda have shown their intimacy with the subject, and have estimated its value. It cannot be, then, from ignorance of this character of sound that the difference in result arises. However, as Dr. Flint has shown the way, future investigations will determine the correctness and value of these examinations.

These results are so extraordinary that we present to our readers a brief, and yet as faithful a synopsis of them as possible. In the infra-clavicular regions, out of twenty-four cases examined, the inspiratory sound presented a greater intensity in fifteen cases, while the vesicular quality was more marked in fourteen cases upon the left side, the right side giving a higher pitch of sound in twelve of nineteen examinations. The expiratory sound was present in three cases, and more intense in two cases, upon the right side, while this phenomenon was not observed upon the left. It was prolonged in several cases

upon the right, and an interval between the two sounds of inspiration and expiration was observed upon the right in several cases, whereas they were continuous upon the left. The pitch was higher than the inspiratory sound, in eleven cases on the right, and lower in only a few instances. In the upper scapulary regions, the inspiration was found higher in pitch upon the right side, while it was more intense and of a more marked vesicular quality upon the left, when these phenomena were observed. "The sound of expiration on the right side in a certain proportion of instances, is prolonged, more intense than the inspiratory, and higher in pitch, this being very rarely the case on the left side."

In the lower scapular and in the infra-scapular regions the results are the same : Inspiration more intense on the left side, with a higher pitch-sound upon the right, while the vesicular quality was more strongly marked upon the left. The expiratory sound was not found in either of these regions higher than the inspiratory sound. The sum of all these examinations is, that, where the inspiratory sound is appreciable, it is more intense upon the left side than upon the right, and has a more marked vesicular quality, while the pitch-sound is higher upon the right. From this it follows that the more intense the sound the lower the pitch, and vice versa. This is the substance of these examinations, which is very different from those of Barth and Roger, Gerhard, Louis, and others, and from this dissemblance require that they should be accepted with caution, but not necessarily doubted.

The sounds produced by the act of speaking, in the same regions as above designated, are also investigated by Dr. Flint, and are found to give in the chest uniformly a greater resonance upon the right side. The *resumé* of the phenomena incident to the respiration and the voice, in the healthy chest, is given as follows :—

"1. Infra-clavicular regions.—More or less of the characters of the bronchial respiration generally present on the right side. Greater intensity and more strongly marked vesicular respiration often observed on the left side. Vocal resonance greater on the right side in the larger majority of instances.

"2. Scapular regions.—Respiration more vesicular and in-

tense in some instances on the left side; and frequently presenting characters of bronchial respiration on the right side. Greater vocal resonance habitually on the right side.

"3. Infra-scapular regions.—The intensity and vesicular quality sometimes greater on left side; the pitch frequently higher on right, and rarely on the left side. The vocal resonance generally greater on the right side.

"4. Mammary and infra-mammary regions.—Greater intensity of the respiratory sound on the left side in a ratio a little less than one-half, and on the right side in a ratio of one-sixth. Vocal resonance habitually greater on the right side.

"5. Axillary and infra-axillary regions.—Respiratory sound more intense on either side in a equal ratio; the characters of the bronchial respiration presented on the right side in a small proportion of cases. Vocal resonance habitually greater on the right side."

In the foregoing pages we think we have presented the material part of Dr. Flint's book,—that part which appertains more especially to himself. In substance it has been before the medical public in the form of his Prize Essay, the present volume being a more extended and elaborate presentation of the same views. In the succeeding chapters upon auscultation in disease, we find no new views which are not obtained as a direct consequent of those given in the study of the physiological phenomena. The nomenclature of morbid sounds is mostly that introduced by Barth and Rogers, and the treatment of this subject is a fair *resumé* of the various views and hypotheses upon the physical causes and diagnostic value of these sounds. We have given so extended an abstract of the first section of the work, that we must necessarily omit any notice of this part, which presents nothing novel, nor can we more than allude to the fact, that the second part of the work is devoted to the "Diagnosis of Diseases affecting the Respiratory Organs."

The value of Dr. Flint's researches cannot be estimated at this day. They are *sub judice*, and require a more extended and equally faithful experimentation, made in the same spirit of honest searching after truth which instigated the investigations made by our author, before they can be properly appreciated. A

higher estimate is given to the relative pitch of sound, both in percussion and auscultation, than we are inclined to award to this sign. It would not be surprising, if in the enthusiasm with which the author has pursued his investigations upon this point, he had given an undue prominence to the observance of this sign.

To the commencing student this work is valuable, for it presents our present knowledge upon the subject of auscultation and percussion theoretically, and as applied to the diagnosis of diseases of the air-passages, in a clear, perspicuous, and agreeable manner,—and to the student versed in the views of the schools, it offers new subjects for thought, and new facts for investigation. J. H. D.

A Popular Handbook. Sight and Hearing; How Preserved, and How Lost. By J. Henry Clark, M.D. New York: C. Scribner, pp. 351.

A lawyer cannot judge with entire accuracy of the value of a book like "every man his own lawyer." He is not aware of the extent to which people generally, are ignorant of the simplest principles of law and sees the glaring defects which must necessarily exist in it. It is incomplete, perhaps unsafe as a counsellor to replace his services, and he does not realize the amount of information actually conveyed by it to unprofessional minds. So it is with medical books intended for popular use, and we speak of this volume with all proper diffidence, remembering what we have seen among lawyers.

Dr. Clark's book, we think, will convey to unprofessional readers a very considerable amount of information concerning the structure, and the functions of the eye and ear, together with many useful cautions and suggestions. It frequently strikes us as being too crude and general in its statements, but we do not forget that it was written for those not familiar with these subjects. The treatment recommended is usually the simplest, for Dr. C.'s very judicious advice is, not to tamper with either of these organs. The hygienic suggestions with directions for the avoidance of evils from improper use, must be beneficial, and

we do not hesitate to commend the book to those for whom it was designed.

The preface of a book often contains much valuable information, and we always read it. This astonishes us in its third sentence, by the declaration that "the majority of books of every kind, however, are designed in some way to serve as an advertisement." We object to the careless structure of this sentence; we doubt its correctness when made in this sweeping way, and beg leave to suggest to Dr. C., that it is in exceedingly bad taste in this book, even if it were entirely true. The style of the author is occasionally careless throughout the volume, which is the more to be regretted that he shows himself able to do better. More attention to this will greatly improve the next edition. E. H. P.

Sea Sickness. Its cause, nature, symptoms, and treatment: derived from experience and strict observation. By Ml. NELKEN, Doctor Medicinæ of the Faculty of Medicine in Paris, France, &c., &c. New York: Stringer & Townsend. pp. 32.

It is quite surprising that so few books exist which treat of the subject of sea-sickness. This comes to supply in part the deficit, and if possible, to relieve in a measure the suffering from this cause. Its directions, both hygienic and medical, are simple and concise, and will be of use to those who are to be exposed to this annoying affliction.

As to the causes of the disagreeable sensations known as sea-sickness, the author says: "That the long continued and violent motion of the ship, communicates its disturbing influence simultaneously to all the viscera and organs contained within the abdomen, thorax, cranium, and the spinal column, that according to the idiosyncracy, in other words, to the peculiar structure and impressibility of the ganglion, pneumogastric, and cerebro-spinal systems of nerves in different individuals, various symptoms manifest themselves." E. H. P.

NEW YORK MEDICO-CHIRURGICAL SOCIETY.

Reported for the MONTHLY by J. O. BRONSON, M.D., Secretary.

July 8th. The following case of tetanus was related by *Dr. Benjamin Lee.*

Solomon Jackson, aged 39, entered hospital June 3d, 1856, with tetanus, the result of a large sloughing ulcer on the inside of right leg. The spasms involved the entire system, and were purely opisthotonic. Felt less in left leg than elsewhere. Could separate the teeth about an eighth of an inch. Was unable to protrude the tongue, which was badly bitten, and to chew his food. Was very weak ; pulse 130, weak and irritable. Tone of system, poor. Has had no evacuation for four days ; sleepless ; spasms occurred about every three minutes.

He gave the following history. In January last, a small tumor made its appearance at about the centre of the present site of the ulcer, which gradually increased till it burst. The ulcer thus made, spread with considerable rapidity. It was treated with poultices and salves, until about six weeks since, when he consulted a botanical doctor, who pronounced the sore to have been caused by the bite of a tree toad ! and proceeded to cut away portions of it, whether merely to remove sloughs, or with a view to "cutting out the poison," I am not able to say. He, also, gave him an "Improved Healing Salve," and an "Improved Healing and Drawing Salve."

No benefit was derived from these applications, and on the evening of Saturday, May 24th, the patient began to feel cramps, starting from the leg and running up to the jaw. These gradually increased to their greatest intensity. The patient's countenance wore an expression of extreme anxiety. The following was prescribed, and a table spoonful given every second hour :

℞	Spt. Vin. Gal.	fʒij
	Cinchonæ pulv.	ʒj
	Aq. puræ	fʒiv
	M.	

Also—

℞	Calomelas	gr. x
	Gambog. pulv.	gr. iij
	Ft. pil. no. 1,	

given at once ; and—

℞	Gum. Opii		
	Ext. Conii	aa	℈j
	Ft. pil. no. 10;		

of which one was given every two hours.

A large bread poultice, with tr. opii ℥j and aq. ℥j, was applied to the ulcer. This was at 3 P. M. At 7, the leg feeling very painful, and as if the poultice scalded it substituted warm water dressings. 12 P. M.—Condition about the same ; leg comfortable. Sleepless. Substituted for the opium and conium, the following :—

℞ Ext. Cannab. ind. ℥ss
Div. in pil. no. 10,

and gave one every two hours.

June 4th, A. M. Pulse 98 ; has had some refreshing sleep since taking the cannab. ind. Great tenderness and distressing spasms of diaphragm, and in right iliac region. Applied to both warm fomentations of fol. aconit. No evacuation. Gave—

℞ Ol. Ricini ℥iss
Ol. Tiglii gtt.ij

Increased the brandy and cinchona mixture to ℥iij. Continued the cannab. ind. as before.

P. M. Has vomited a large quantity of yellow, curdy matter, probably milk, which I had ordered him to take freely. Added a little calc. chl. to the dressing for the ulcer. Leg comfortable ; spasms less frequent, but very violent, almost throwing him from the bed.

June 5th. Retention of urine ; had passed no water since the previous night. Pain above pubes. Applied a moist, warm fomentation of hops over bladder. Prescribed—

℞ Pulv. Opii
" G. Camph. aa gr. iij
Ft. pil. no. 3 ;

two to be given immediately, and one in an hour. No evacuation. Dispirited ; pulse more frequent and irritable. Mist. cinchon. was given every hour. Spasms a little less frequent. 10 P. M. Had passed water with considerable difficulty. Gave

℞ Hyoscyam. pulv.
Opii aa gr.ij
Ft. pil. no. 2.

June 6th, A. M. Has had a large, soft evacuation. Spasms diminished in frequency and violence ; more confined to legs. Less trismus. Has not bitten his tongue for two nights. Still considerable rigidity of muscles of mastication. Leg painful,—probably owing to a change in the temperature. Increased the calc. chl. in the water dressing. Ulcer dark and foul in spots. Pulse 100 ; urination much easier ; slept well.

10 P. M. Pulse 84, full and round ; leg comfortable ; spasms

less frequent, most severe in abductors of thighs, jerking the legs wide apart,—very slight in upper extremities or trunk. Bowels quite loose; four evacuations during the day, unattended with pain; micturition easy.

June 9th, P. M. Since last record the treatment has been as before. Yesterday, diminished the dose of cannab. ind. to gr. ij. every two hours. Ulcer generally clear, suppurating, and granulating. Spasms now felt only at knees. They appear to be principally in the vastus internus and sartorius,—feeling, as he says, as if they were dragging his knees together. They do not occur now more frequently than every ten minutes. Can protrude the tongue, if done carefully, without inducing them. Eat a little softened bread, to-day, with some comfort. Bowels free, owing probably to the cinchona. Pulse 83, full and soft. Countenance still anxious.

June 10th. Has slept well; spasms slight, not oftener than once in 15 minutes, induced by a sudden noise. Pulse 80. Alternated the cannab. ind. with opii et camph. aa gr.ij., to be given every two hours.

June 15th. Improvement still continued. Altered treatment as follows:

℞ Cannab. ind. ext. gr. xxx
Sulph. fer. exsic. " ix M.
Div. in pill no. 30.

Ol. Jec. Asel. A table spoonful three times a day.

Since that time his improvement has been steady. He is now able to masticate his food without trouble. For a slight twitching in the sole of the foot, I, to-day, applied a fomentation of fol. aconiti which afforded almost immediate relief. The ulcer is still, however, in an unhealthy state, and he is liable to a relapse into his tetanic state. But I think that as far as that attack of the disease goes, he may be considered cured.

In answer to an inquiry *Dr. Lee* remarked, that no diuretic effects were observed resulting from the use of the Cannabis Indica.

Dr. Carnochan spoke of several cases of tetanus, which had passed under his observation, in one of which the inefficiency of chloroform as a remedial agent, was fully demonstrated. At least half a pound of the article was used with no other effect than to allay the spasmodic action for a time. As soon as its use was discontinued, the paroxysms appeared with equal if not renewed intensity, until at last the patient died. Recovery from true tetanus was a rare occurrence. He had seen some cases simulating tetanus, where-

in medicine was effectual. In one, wine and the carbonate of iron, produced a cessation of the spasms. Sometimes, a removal of the cause is productive of the happiest effects. Being called to see a child, who in running about barefoot, had pierced the sole of his foot with boxwood stubble, he found the patient suffering extremely with trismus, which had continued for five or six days. Suspecting the presence of a portion of the stubble in the bottom of the wound, he cut down upon and removed a small piece, which had been the exciting and continuing cause of all the disturbance. The child immediately began to convalesce. As regarded the case related by Dr. Lee, he remarked that he had never known a case of traumatic tetanus to occur after the twenty-first day from the reception of the injury, and if tetanus is liable to be produced by an ulcer, the case was certainly interesting.

Dr. Carnochan then exhibited two large and several small pieces of the frontal bone, together covering a surface of six and a half square inches, removed from a man, who had suffered a comminuted fracture by a falling bar of iron. The fracture involved a portion of the orbit, and infringed upon the parietal bone of the right side, wounding the branches of the middle meningeal artery. The injury occurred eight days before. At first, the man was stunned by the blow, but after forty-eight hours, he had been sensible and able to answer intelligibly. At the time of the operation for the removal of the bone, the man was inclined to sleep. The pupils of the eyes were not dilated. There was no febrile excitement, and not much sign of compression. His pulse was 45. With slight effort, the pieces of bone were removed with polypus forceps, no trephining being necessary. A coagulum of blood was found extending under the sound bone, farther than could be reached. All was removed, however, that was possible, and the parts gently washed by means of a sponge. No pus had formed, although eight days had elapsed since the injury. Immediately after the removal of the bone, the pulse arose to 80. The prognosis was doubtful.

Dr. Bouton presented the stomach of a woman, who tired of a life spent in drunkenness and prostitution, had taken arsenic, which was followed by death. The organ was presented, however, more to exhibit an abnormal condition or formation at its cardiac end, showing an irregular cyst, puffed up with air, appearing as if the inner coats of the stomach had suffered solution of continuity at some time, and the remaining tissues had become dilated into a pouch, capable of holding about two drachms. After examining the organ, Dr. Cox

remarked, that the appearances internally would indicate that an ulcer had existed at that point, and he was of the opinion, that such was the cause of the condition.

Dr. Cox presented, for *Dr. Leigh*, of the Nursery Hospital, a heart removed from a girl, aged 12 years, weighing eleven ounces, about twice the size of the organ in a healthy condition. Last winter, as was reported at the time of her entrance into the Hospital, she was affected with pains in her limbs and joints, which were considered by the physician in attendance, as "growing pains." The joints were also swelled, and she probably had endocarditis, associated with rheumatism. She was admitted into the Hospital on the 18th of June, suffering dyspnœa. Her pulse was rapid and the action of the heart was violent. The sounds were blended and gave a bellows murmur. The patient was anæmic and emaciated. The face became œdematous and the feet swelled. Digitalis was temporarily beneficial in controlling the action of the heart. Gastritis became developed and diarrhœa supervened, which was uncontrollable, on account of the irritability of the stomach. Enemata and suppositories were used without effect. The evacuations which were at first of a dark color, became mucus and blood. Violent pain existed in the gastric region. About two days before death, the heart's action became more natural. No delirium occurred at any period of the disease.

Post Mortem.—Examination, post mortem, found the lungs slightly congested; the stomach inflamed; the spleen enlarged to three times its natural size; the liver also hypertrophied, and some effusion into the cavity of the peritoneum. The heart, (which is spoken of lastly, it being before the Society) was found very much diseased. Its size, as mentioned before, was nearly doubled, the left ventricle dilated, and the auricle of the same side showed evident signs of inflammation. The mitral valves also, presented some evidences of inflammation having existed.

Dr. Cox also presented a portion of the ileum and colon of a child, one year and two months old, who but a few days before, was apparently well. The bowels were regular, appetite good, and no evidence of disease existed. It had been weaned four months. The first symptom was a slight diarrhœa. The gums were scarified, as they were red, swollen, and tender. The number of stools did not exceed three in the twenty-four hours, which were thin and bilious in their character. After the first day, the stools were more thin than at first, with less fœcal matter. Until within eight hours of its death,

there were no symptoms of sinking or prostration, the pulse was rapid and the child's face, the afternoon before its death, wore an expression of suffering without any other evidence. There was no distension of the abdomen, and the child, throughout, rested quietly. A prescription containing camphor-mixture with two drachms of chalk-mixture to the ounce, had been prepared for it, a spoonful of which, once in six hours, had been given. It did not nurse as well or as much as usual the last two days.

There had been no vomi ing until six hours before death, when it commenced to vomit, and cry as if suffering severe pain ; the feet were drawn up, accompanied by two or three green evacuations, with spasmodic twitchings of the muscles of both extremities. Warm fomentations were applied to the abdomen, and a quarter of a drop of Magendie's solution of morphia was administered ; after which, it rested quietly for two hours, sleeping at intervals. After this, the same symptoms returned, the mixture was repeated, but did not produce sleep. The little patient continued to sink, and died in a few hours. The specimen presents the glands of Peyer enlarged and inflamed ; the solitary glands are slightly ulcerated, and the whole of the colon is very much inflamed. The Doctor remarked that he did not remember having seen an instance where so much disease had existed in a child, with so few symptoms.

CHRONICLE OF MEDICAL PROGRESS.

Case of Poisoning by the Seeds of the Datura Stramonium.—A boy, four years of age, having been at play, came into the house of his parents, complaining of thirst, and saying that his "tongue felt big," manifesting a very limited desire for supper. He was put to bed as usual. In a short time attention was attracted to him by a scream. Nausea soon supervening, an infusion of snake root was administered, which produced a cessation of the symptom, but others accompanying it being uninfluenced. Dr. Calkins, who reports the case in the *Boston Medical and Surgical Journal*, was called to the child, whom he found in great distress, with pulse 120, very restless, throwing his limbs in every direction. The pupils were dilated, the skin of a bright scarlet color over the face, body, and lower extremities. The appearance of the patient, the mother's history, and the fact of his having often complained when urinating as re-

lated by the father, caused Dr. C. to think that worms and a stoppage of water were producing the disturbance, for which he gave some simple remedies without effect. A large injection not producing an evacuation of the bowels, eight grains of calomel and six of jalap were administered. In three hours, catharsis not following, ten grains more of calomel and eight of jalap were given, with the effect of full emesis exhibiting the cause of all the symptoms. At last, a tablespoonful of the seeds of stramonium were thrown up, having been retained upwards of seven hours. The bowels began to respond, and throughout the copious watery stools were more of the seeds. The child recovered.

Dr. Calkins asks this question, "Does not calomel neutralize the effect of this poison, in a measure?"

The Nitrate of Soda in Peru.—It is well known that an enormous mass of the Nitrate of Soda exists naturally in Peru, in the districts of Atacama and Taracapa, a short distance from the Chilian limits,—a mass some feet in thickness and more than forty leagues in length. It is attributed by naturalists to the former existence of a lake or sea, which occupied this plain, no less than three thousand feet above the level of the Pacific ocean. Analysis of this mineral discovered an appreciable quantity of iodine and bromine, in the form of the ioduret and bromuret of soda and magnesia. The quantity was sufficient to give sensible reaction with an acidulated solution of starch.—Parodi. *Anales de Soc. de Med. Montevid.*

Uric Acid Calculi.—A man, sixty years of age, never having suffered any vesicular or urethral disease, for the space of two months experienced a frequent desire to urinate, which he accomplished without pain but with difficulty. The trouble increased until cystitis was established, for which he was treated and relieved, leaving, however, incontinence of urine. In this condition, after a time, he consulted surgical aid. The general health of the man was good. The urine presented none of the characteristics common in affections of mucous membranes, and though it presented acid reaction, it was not stronger than might exist in a normal secretion. The surgeon diagnosticated the existence of recently-formed calculi, and it was of the greatest interest to the patient that they should be expelled, before their size

should demand an operation for their removal. In order to overcome the spasmodic action of the vesical sphincter, consequent upon the presence of the calculi, and to augment the secretion of urine—two indications demanding fulfilment—the surgeon prescribed the use of the tincture of opium, and large potions of the infusion of barley and linseed, in which was a small quantity of the spirits of nitric ether. Instructions were given him, that in voiding his urine he should always place himself inclined forward upon his knees in a tepid bath.

In a few days, by following these directions, the patient expelled by the urethra three calculi, of the size of a *poroto.*

The expulsion of the calculi was productive of complete amelioration of the symptoms. By analysis, the concretions were found to be *pure uric acid.*—MUNOZ. *Anales de Soc. de Med. Montevideana.*

Quintuple Birth.—The wife of a guard in the service of the North-western Company, Birmingham, was safely delivered of five children—three boys, alive, and doing well, and two girls born dead.—*Med. Times and Gaz.*, April 19, 1856.

Cancer of the Uterus.—M. Leroy d' Etiolles who has studied cancer for many years, made the following statements at a session of the Medical Society of the Department of the Seine, held on the second of May last.

"Cases of cancerous disease to the number of 2,781 have been sent to me by 185 French and foreign physicians and surgeons, at the head of hospitals, or having very extensive practice.

Of these cancerous patients 633 were men, and 2,148 were women. Of this number, cancer of the uterus occurred in 684, whose ages were as follows:—

From 1 to 20 years, - - -	2
" 20 " 40 " - - - -	66
" 40 " 60 " - - - -	345
" 60 " 90 " - - -	271
	684

The duration of the disease is not given in 376 of these cases.

Death occurred within a year in	59
" " in from 1 to 2 years in	64
" " " 2 " 3 " "	49
" " " 3 " 4 " "	36
" " " 4 " 6 " "	41
" " " 6 " 8 " "	28
" " " 8 " 12 " "	19
" " " 12 " 16 " "	7
" " " 20 " 30 " "	4
Beyond 30 years,	1
Duration not specified by the observers,	376
	684

The following table gives the ages of patients admitted to the hospital of La Salpetriere from 1834 to 1842. There are recorded on the registers of the hospital a very large number of cancerous cases with no mention of the organs affected. It is therefore probable that the total number of cases of cancer of the uterus admitted to the hospital during the period of nine years is greater than appears from this abstract.

At 5 years,	1
" 20 "	1
" 28 "	2
Between 30 and 40 years,	53
" 40 " 50 "	83
" 50 " 60 "	78
" 60 " 70 "	60
" 70 " 80 "	83
" 80 " 90 "	29
" 90 " 100 "	4
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Somebody may be edified by the following, which we take from the Edinburgh *Medical Journal:*

Carlyle on Medicine.—Oh, my brother, be not a quack! If, in the phrenzy of this modern locomotion, any living man be overtaken by the mishap of a broken leg, chirurgeon-wise bring the twain splints into apposition, and let osseous sympathy do its proper work, hindering it not. But mark me, brother, lift thine hand only when it is a living man who complains. When a wearied, struggling, heart-sore son of Adam turns himself to the wall, like, but with more intent than, the crowned Hezekiah, disturb thou not his departing agonies with thy wretched ointments, gallipots, and other abominations that

stinketh. That man is wearied with this terrene, and its losses and its crosses, and bethinks him to flee away and be at rest in a better and far off country, and thou but troublest him in his upward flight thither. It is, without controversy, the saddest thing in the world, and beyond remedy that is visible, that when humanity's plague spot is ambition ungratified, the leech says, Be of good cheer, lo! here is Opodeldoc—or when the inmost soul is racked by the frailty named woman, said body-cobbler notes down on paper, six inches by four, certain cabalistic characters which none but 'pothecaries can interpret, but which has Quinine for its refrain—or when the victim sees nothing but the blackness of darkness in his ledger, the guinea adviser cries peace, peace, even Rhubarb is at hand! Miserable comforters are ye all! When this universe was younger by the matter of three hundred years, William Shakespeare sorrowfully asked you and yours if you really could minister to a mind diseased, and since then you have groped about in nature's laboratory till you have educed (or if you did not, Harvey for that matter,) the dynamics of the blood, purification by cow-pock, and also various compounds tending to insensibility; but mind, mind eternal, immortal, invisible, is as far off from your unguents as ever. It will none of you. Bethink you now, my brother, and let us reason together. If a flower be pluckt from its stem, and flung on Macadam's high-way, will galvanism, eye-salve, mandragora, or other pestilencies, restore its green glitter, its holy tints or its sweetest flavor. Yet will you try your sorry craft on unstrung woman, and seek to bring her withered heart into unison with the spheres. You cannot restring a poor flower, with its simple mechanism of sap ascending and descending in curious capillaries, but yet you will experiment, and, good sooth, persist, till tipstaff, Death, has played you off the board—you will persist, I say, in playing with acidities in the bag of the stomach, unmindful of that great heart-burn which is drying up the fountain of life, of tears, of joys, and of sorrows. Cæsar, Cromwell, Napoleon, these and other notables, you will preach to them your gibberish about starch corpuscles, histologies, and other entities applicable truly to potatoes, corn, and esculents many, all of the earth earthy; but the notables, I say, are messengers from the great intelligences above (not the less it may be that they themselves know not that fact to the full extent, at least), let *them* alone I say—they have a mission and a destiny to solve that you, with your pot-bellied vessels of colored water, lighted behind with gas-jets, dream not of. When *that* is fulfilled, but not till then, Francis Moore, physician, and other almanac celebrities, saying what

they list notwithstanding, they will, in the fullness of time, be exhaled and go thence. Stand thou then aside, for the eagles are on their way to the Mountains of Spices. The thing is not to be borne. A soul from one eternity, flits across this poor geological crust on its way to another eternity, and instead of reverently lifting its eyes and waving trees of palm, the poor College of Physicians counts time by seconds on a Geneva watch, and offers none other oblation than par-boiled senna leaves.

The *Lisbon Gazette*, of the 16th of March, gives a picture and description of a child, truly unique in the history of monsters. Feliciano da Assompçao was born without limbs—either superior or inferior—or any appendices in their place. The child is now twelve years old. He has a clear and active mind, and an excellent memory. His weight is 8 kil. 355 (a little more than 20 lbs.) ; his height 0 m. 44 (about 17 inches) ; the greatest circumference at the base of the thorax, passing over the xyphoid cartilage, is 0 m. 54 (21 inches) ; the thorax is very flat ; the smallest diameter, at the epi gastrum, is 0 m. 11 (4.29 inches).—*Gaz. Hebdom.*

EDITORIAL AND MISCELLANEOUS.

It is now more than six months since we alluded to some of the defects and most glaring faults in the mode of nursing in our hospitals. We then stated that we should seek another opportunity to speak of the same subject, but have hitherto preferred to wait for a more deliberate consideration of the subject. At present we propose to speak of it fully and openly, being at the same time aware that we tread where few medical writers have had the courage to precede us,—where we are in danger of giving offence, of being misunderstood, and of being misrepresented.

Although it be repetition, we must give the following description of what a non-medical gentleman, of this city, found at one of our City Hospitals. He was in quest of a young man who had fallen, and was so seriously injured that he soon after died. This is his account :—

"In a large and well-arranged room, in a row of wounded men, lay the one

I was looking for. His injuries had been dressed, but he was very feeble, and I was soon convinced that he would not live. After I had been with him half an hour, he wanted some water. A stool between his cot and the next contained medicines and drinks for both, a slight partition separating the two. Both patients could readily reach them, and help themselves. Even the brandy, which was to be administered in small quantities, at certain intervals, was there, and the patient could take it at any time, and in his thirst, or impatience, or delirium, he might have swallowed everything designed for him and his neighbor. This neighbor cautioned him against touching the medicines, lest he should take something wrong. A coarse Irishman, the nurse, now came along, and I said to him that he wanted a drink of water. 'Well, he can't have it; he's a taking brandy, and it won't do for him.' Of course I submitted, but the kind-hearted neighbor in suffering, said:

'He's faint, and a drop of water will revive him.'

The raw Irisher turned upon him and exclaimed, 'you shut up your head, will you.'

All the while I had been sitting here, a rattling noise from a room, the open door of which led immediately from this, had annoyed me much, and I had felt that it must be harrowing to the distracted nerves of these men, every one of whom was stretched out with broken or amputated limbs. At length I inquired what it was, and was answered that the attendants were '*playing dominoes.*' Over a large wooden table they were frequently shuffled, making a startling and grating noise most painful to the poor fellows, who must endure it for successive hours. The heartless cruelty of this noisy amusement, inflicted by men who are employed and paid to watch with tenderness over their suffering fellow-men, excited my indignation, and I freely expressed it on the spot."

We call attention to this case, not because it presents any striking features, but because every one who has served in hospitals or visited them very frequently, at other hours than those of the regular round of the physician, must feel that it is entirely truthful, and that he could match it with many instances from his own memory. That *one* such case should exist would be a disgrace to a Christian community, and yet these are the ordinary occurrences, the experience of thousands of sick people in our hospitals throughout the country. The question arises, is this necessarily so? It must be admitted to be a very great evil; is there no way of getting rid of it?

It is a very trite observation, that, in the care of sick persons, as much frequently depends upon the nurse as the physician. However skilful the latter may be, however wisely he may prescribe and direct, it is all of little effect unless his efforts are carefully and completely seconded by the nurse, not only in the giving of medicine—for that is a small part of nursing—but in the conscientious attention to the food, position, and general comfort of the patient. We have sat by a patient whom opiates could not soothe, and seen him lie quiet as we have passed our hand softly over his forehead. By others we

have sat for hours and held the hand, while they obtained needed rest, which every other means had failed to give. The patient who is so weak as not to be able to turn in bed, or to move even an arm, will suffer intensely because unable to change his position ; when a slight variation in it will be followed by refreshing sleep. The involuntary starting of fractured limbs requires that the attendant should watch diligently to replace them in proper position. The prostration following fevers, and other exhausting diseases, demands for the recovery of the patient most careful watching, that too long sleep may not, by troubled dreams or too long abstinence from food or stimulants, allow the vital powers to be depressed to that degree which precludes restoration. And it is the nurse that must attend to all these particulars. If he neglects them, the physician loses his patient,—the patient loses his life. Trite, therefore, as is the remark with which we commenced this paragraph, it loses none of its importance when we reflect upon it. So true is it in some diseases, that if we fell sick of one of them (and yellow fever is an illustration of the class) under circumstances such that we could have but one,—either an intelligent and conscientious nurse, or the most skilful physician in the world, aided, by an ordinary hospital attendant, we would without hesitation choose the nurse. In the disease particularized, the quinine, the stimulants, &c., are very desirable, but though one takes them regularly, his chance for life is poor indeed if a sleepy nurse allows him to lie but a few moments too long uncovered, or with his arms or legs even exposed to the air only long enough to check the perspiration and rekindle the fever.

Who, now, are the persons to whom these duties are committed in all our large institutions? Had we all in a row those that serve in our city alone, it would be a sight unique, indeed. The men, with few exceptions, would be fit recruits for some Falstaffian regiment. The women, with more exceptions, but still in the vast majority, would prove worthy mates to the men. Lame, lazy, blind, rough, noisy, heartless, they serve only for their pay, and because they obtain a living easier in this than in any other mode. Their effort is not to comfort the sick and to save life, but to satisfy the steward or matron, or at least to avoid offending them. Such service is not what is needed, but is all that can be had under the ordinary mode. That such persons should prefer to sleep, rather than to pass the night bending over the bed of some unfortunate and suffering stranger, is not astonishing; or that their own comfort should be preferred by them to the arduous task of affording relief to others, is no more than one

would anticipate. If, then, the comfort of the patient is a thing to be thought of, if it is desirable to avoid every thing that may tend to shorten his life, and to use every means that may tend to prolong and save it,—if these be included in the objects for which hospitals are built, then, if possible, some better plan should be found for conducting this department of these public charities.

The faults of which we speak are by no means confined to the lowest officials, but must prevail throughout. The steward and the matron are not necessarily exempt from them, and while they exact scrupulous cleanliness and careful obedience to their orders,—things which must be observed to avoid the notice of the authorities from whom their appointment comes,—they are indifferent to everything else. The stupid "Irisher," with coarse language, refuses a little water to the parched lips of a patient "because he is taking brandy," as if that were any reason; while the sympathy of a fellow-sufferer calls forth language fitter for the pugilistic ring than a sick room. These things are not, perhaps they cannot be, known to the higher officers, but we doubt that if they were known they would call out any efficient correction. All, from the steward down, work for their money, and it is the rule where principle does not govern one, to do as little as is necessary in order to keep the situation. It is the voice of authority that is to be listened to, not that of duty or love to fellow-men. And so long as the authorities are content, duty does not trouble them.

The increase of wages will not produce much, if any, improvement in the state of affairs. Perhaps more intelligent persons will be found to take the posts, but the same selfishness will be manifest. Money cannot buy what is needed to make a good nurse; and while money alone is relied on as the inducement for qualified persons to enter upon these duties, just so long will the faults of which we complain continue to exist.

To what motive, then, can an appeal be made that shall call forth persons able and willing to perform these duties? Without hesitation we reply, to religious principle, and to this alone. Scoff as much as you choose, ridicule it, laugh at it, doubt it, it remains still true that this, and nothing else, can furnish to our hospitals a corps of non-medical officers able and willing to perform their duties fully, faithfully, and intelligently. This alone will enable one to bear with the querulousness of sickness, or to endure fatigue and loss of sleep that a stranger may have less pain or may be able to obtain some repose. But religious principle will furnish this class of persons, and

this will sustain them in doing all that a kind heart suggests and that duty demands.

To obtain such nurses, to furnish to our hospitals such a body of attendants, in the place of the low-spoken, coarse, too often profligate, persons who now hover around the beds while superior officers are near, but desert the sufferer in his extremity,* is no slight task. It is probably not at once possible. It cannot be done at less expense to the institution, so that this stimulus cannot be used to stir up the indifference of the managers. On their part it must, also, be a matter of principle, and till it is, or till a correct public opinion demands the change, it probably will not be made. For this reason the duty is all the more imperative for us to broach this topic, hitherto untouched, we believe, by medical men in this country. In England, and on the European continent, it has caused much thought, and occasionally been advocated by the pen of physicians.

We say openly that we are of those who believe there are other objects in life which should interest one more than gaining money; and we can conceive it to be possible for persons to do, from a desire to be useful, that which they would not from any other cause. We can, therefore, conceive it to be possible that persons should, from a desire to do good, devote themselves to the care of the sick.

Without circumlocution, we at once say that there is, in our judgment, only one mode by which the sick of our hospitals can be properly nursed, and that is by placing this department in the hands of Sisterhoods, consisting of religious women, associated together for the purpose of taking care of the suffering, not with the expectation of making money, but with the desire to do good out of love to their Lord. But before going farther into the discussion of the subject, we propose to give, in as brief a space as possible, an account of these associations; for we know that very few of the medical profession, or of the public generally, have any correct notions concerning them.

The thought of every reader will perhaps turn at once to the only

* The following anecdote is given by very good authority: "A few years ago, a nurse from one of the great (English) hospitals was sent, on an emergency, to assist in a private family, and amongst many stories she told of the heartless proceedings that were carried on in the wards, and the utter absence she showed of any sympathy or tenderness towards the patients, she did not scruple to relate how, as death approached, they used to 'make short work of it' by removing the pillows from under the heads of the patients; thereby hastening the last moment, in order to save themselves the trouble of a few hours' longer attendance."

order of the kind which is known to any extent in this country. We mean the Sisters of Charity, of the Romish Church. But of these not very correct ideas are entertained. The Order of St Vincent de Paul, the formal title of the Sisters of Charity, was founded about the year 1629, and takes its name from the priest who was its originator. Châtillon in France, was the place in which it arose, but its members soon transferred themselves to Paris. Their first efforts were directed to taking care of the sick at their homes, the education of foundlings and young girls, and subsequently the care of hospitals. The first institution of this kind at Paris which they attended, was the Hôtel Dieu, and this they still have in charge. At that time they rented a house in the vicinity, for the purpose of preparing biscuits, jellies, fruits, and other luxuries, for the sick under their care, the hospital funds being insufficient for this purpose. Every comfort necessary for the patients was furnished by them. Two years from its foundation the Society numbered two hundred ladies. Subsequently women of a lower grade as to education were admitted, and performed the more menial duties, working however under the direction of the lady Sisters. Continuing with this arrangement, and working under the direction of Vincent de Paul and of their superior, Madame Le Gras, their numbers and their usefulness increased, their example exciting many others to establish societies for visiting the poor and the sick. In 1639, some of the Sisters were sent to Angiers to nurse in a hospital, and in the same year, Queen Anne, of Austria, requested to have some of the Sisters placed as nurses in the military hospital she established at Fontainebleau during the siege of Dunkirk. In 1652, when an infectious fever desolated Warsaw, the Queen of Poland sent for them, and they there nursed the sick and the dying, and took charge of those who were made orphans by the fever. Though thus extending, it was not till 1655, twenty-six years after its foundation, that the Society was established as one of the orders of the Roman Church, but its letters patent were confirmed by the legate of Pope Clement IX, five years later (1660). Since that time almost two hundred years have passed and the order has extended in every direction, till now it is estimated that its members number near twelve thousand.

We find the following account of the regulations of the Order in France ; they are substantially the same everywhere. "The Sisters usually have no private means. They live with the poor whom they serve. They receive a small annual sum (£12 or £15) from the Bureau de Bienfaisance, of any town in France that may wish for

their services, or a small sum is granted to them from the Mother House. Those who wish to enter the Order are received without dower at the Faubourg St. Denis. All that is required is a small sum for their first dress; and whatever they bring in, is returned to them if they go out. Before they can be received it is necessary to ascertain that their life has been pure, and that there is no family stain. After having spent six months in their own dress, they adopt that of the Order, and they learn all the spiritual exercises, in order to keep the rules and perform the work of the institution After five years of probation in all that the Order requires, they are allowed to take the simple vows, which are only for one year, and are annually renewed, March 25th, with the permission of the superiors."

In an exceedingly entertaining book, "The Ins and Outs of Paris," we find a sketch of them which will, we are sure, interest those who have not seen it, and will be re-read with pleasure by those who have. There is, we are assured on sufficient and impartial authority, no exaggeration in it :—

"I will take you to the establishment of the Sisters of Charity. Do not expect a convent with its monastic solemnities, its traditional *tourriére* with her large keys, its majestic Abbess, and its pealing organs. Where we are going, is simply a shabby looking house, in the small, dirty street leading from the Rue St. Honoré to the Boulevards, and from its vicinity to the church of that name, called the Rue St. Roch.

"Knock and enter. You tread upon a sanded floor—horse-hair chairs and sofas are around. At a table, piled with papers, sits an aged woman in the garb of the Sisters of St. Vincent de Paul—all black, except a cape of white linen, and a head-dress of the same material, somewhat like a sun-bonnet, but protruding further over the face.

Now we are here, what shall we say? The Superior looks up and waits.

"*Ma sœur*, we are foreigners, and we come but to look through the establishment of *Les Sœurs de Charité*, of whom we have heard so much."

"There is no establishment. We have no pictures, no sculptured altars. We cannot tarry to kneel on tesselated pavements before images of saints or martyrs. Our place is forever among the sick and the suffering, with the dying outcast, with the wailing and abandoned infant. But you behold us here. This house is known to belong to the Sisters of Charity. Here I, the Secretary, am ever ready to receive all visitors; and in an adjoining room, are Sisters waiting to fulfil the mission of charity, at the first summons of my bell. To all, without distinction of nation, creed, or rank, are our services given. The poor and friendless, or the rich, whose selfishness has made a solitude around them; even to the degraded, dying of disease and vice, to the resigned Christian, to the raving blasphemer, to each, to all, do our sisters come, and, with tenderness, care, and patience, tend and heal the weary and suffering bodies, and often calm and bring to God the desolate and despairing.

"Ah! women, in your country, they tell me, *Monsieur L'American*, have claimed 'woman's rights:' but ours is the sweetest, noblest right of all. It

makes us equal to angels—angels, not such as poets and admirers call us, but God's angels, like those who ministered to Christ.

"You smile to hear me speak of poetry and admiration. You wonder that, in this solemn garb, I should know anything of the world. But we are of the world. Our ranks are recruited from the highest as well as the lowest ranks of society. Our vows are not perpetual, until after a long and practical novitiate of many years. Five years is the usual term; and then, without the slightest blame, or a remark of any kind, a woman can, if she chooses, return to her family and to social life.

"It is neither despair, nor bigotry, nor tyranny, which gives us nuns of the Order of St. Vincent de Paul; but it is a vocation for charitable deeds, a tender pity for the ills of life, a desire to be of use to our fellow-creatures.

"I who now speak to you, am a widow. I am well off. I have children, and grand-children, married and prosperous. I see them every day. My presence does not check the mirth of their guests, though it may hallow the conversation; nor does my sombre black dress repress the lisping caresses of my grand-children. I have done my duty toward them all. They have their inheritance, they will have mine. But rather than spend my income and my time in frivolities, ill becoming an old woman, I give both to the great family of the poor and needy.

"Now I must show you the flower of our flock," and she tinkled a silver bell. The door of an inner room opened, and there entered, clad in the same garb as herself, a tall, graceful girl, of about eighteen. To describe the holy sweetness of the expression pervading a face faultless as to feature, dazzling as to complexion, would be impossible. Its apparition was like some pure and holy thought of our childish memories, evoked in an hour of worldly toil and tribulation. The vision, with its earnest eyes, looked straight at us, and smiled. The salutation, so easy, so elegant, was such as is taught in courts. We scarcely dared to speak.

"Sister Rosalie," said the old lady, "these visitors are from a far-off land—*bien loin, bien loin, au delá des mers*,—from America; and they have brought a tribute of charity, for the one of your charges who needs it most."

The vision smiled again—so soft a smile, yet beaming from the brightening eye, and mantling in the flushing cheek. It thanked us in words, though we listened but to the gentle voice; and it was not till she who had first received us repeated it the second time, that we understood that our gold piece was rejected, and that five francs was all that could be accepted. Then from the long, wide sleeves, a fair, soft hand was withdrawn, and in its rosy palm we placed, with reverence, our offering. Another slow and graceful obeisance, a frank "*merci!*" a smile which included all, and the vision vanished.

"That," said our hostess, "is the daughter of the Duchess de D———, the only daughter,—beloved, admired, happy. She has been here four years: one more, and she will return to her proper station. Young as she looks,—for 'tis not toil, but evil passions, that wrinkle the brow: pure thoughts prolong our youth—she will then be five-and-twenty; and in a few months afterwards she will bear the name and title of a husband as noble as herself.

"There was no peculiar circumstance or event which induced her determination of coming to us; it was the result of a comparison of the wretched lot of so many, with her own favored and happy fate. She felt as though God would

exact, for so many good gifts, something more than the mere giving of alms; and so she came among us—a saint in conduct, a child in thought, a woman in tenderness and long-suffering. Her *fiancé*—who is her cousin, and known by her from infancy—as he passes in his carriage, often sees her wading through the rain. But she turns on him her sweet smile of love and hope, and he feels she is protected by a higher power."

Here we felt it right that our visit should end. We had already occupied too much of the invaluable time of the good Sister.

Examples such as this we had just heard related are not rare, either in the higher or the middle classes. The women of France, of all ranks, are actively benevolent. Does distress or sickness come upon you—go to one of these houses of the Sisters of Charity: and at whatever hour of the day or night, one of the Sisters will obey your summons. If you are rich, she will not ask, or even seek to know why you are alone, and have no help but from public charity and pity. If you are poor, she will bring such succor as the funds of their special branch afford. Then, if the case is beyond her means, she will have recourse to the assistance of a *dame de charité*.

Now a *dame de charité* is a lady of high position. Each section has a certain number of them. Marie Amelie, wife of Louis Phillippe, was a *dame de charité*, though, of course, her functions were filled by deputy. These *dames de charité* give amply from their own purses; they are the bankers of the Sisters of Charity. And when their own means are exhausted, they step into their carriages, and, with a large velvet bag, go round to every house within their district, begging succor for the poor and suffering. Their high names, their elegant toilettes, their winning manners, their splendid equipages, are all adjuncts in the cause of charity: and the poor cease to envy, when they see the use to which apparent extravagance and folly are put."

The Order was introduced into the United States about the year 1808, by Mrs. Seton, the daughter of Dr. Bayley, and their first house was built at Emmetsburg, Md. Their rules are very nearly the same with those of the Order in France. The novitiate is for five years, after which they are allowed to take the vows of poverty, chastity, and obedience for one year only, and may, at its close, withdraw if they choose to do so. The central house is still at Emmetsburg, and from there the Order has extended to very many of our cities. At present they have the charge of hospitals in the following cities: Buffalo, Detroit, Donaldsonville La., Mobile, New York (St. Vincent's), New Orleans (Charity), St. Louis, and Troy, N. Y. If there are others which should be added to the list, we are not aware of them. They have infirmaries, however, in Baltimore, Milwaukee, and New Orleans.

In taking charge of hospitals the Sisters of Charity do not, of necessity, agree or attempt to do the whole of the labor. The lady Sisters have the oversight and direction of this portion of their labors, as well as the duty of attending to the religious instruction

which they afford, while the Sisters who come from lower stations in society, perform duties adapted to their standing and abilities. Below these, however, there are frequently hired nurses, not at all of the Order, but under the control of the Sisters. They do not, themselves, do everything, but they direct everything; and it is inevitable that their employées, whether male or female, should catch something of their spirit. Whenever it is needed, however, their personal attendance is given without stint, whether by day or by night.

Many other Orders of a similar character are found among the members of the Church of Rome, but so far as hospitals are concerned they very closely resemble that of St. Vincent de Paul. It is not, therefore, necessary to enumerate them. Concerning them all, this remains to be added, that with their efforts to relieve bodily suffering they mingle religious instruction, striving to induce the sick to improve the thoughts and reflections which arise in illness, and seeking to prevent them from failing to profit by their correction.

How different, then, must be the scenes one would witness in a hospital thus conducted, from those in almost all of our own institutions. Perhaps during the visit of the physician no very marked difference would be observable, but after he has gone the contrast must be striking. In the one, quiet, a grave cheerfulness, kindness springing from love, an anxiety to do all that can be done to solace the sufferers; while in the other, the noise of dominoes disturbs every one, coarse if not ribald jests are banded about, harsh rebukes of expressions of sympathy, and an anxiety to do just as little as possible, and not draw on one the reproof of superior authority, or bring him in danger of a dismissal. To the dying, in one, kind attention to remove if possible a single pang, while the consolations which religion only can afford, are made to soothe the last moments of earth and fit the soul for its great change; in the other, cold neglect, the tongue parched for want of a drop of water, no words encouraging the poor soul as it enters the dark river, but the pillows taken from under his head, "to make quick work of it."

To those who recover, in one, suggestions of amendment of life, rebuke of evil, encouragement of good propensities, the trembling repentant supported till resolution gains strength, guarded from temptations and directed to the paths of safety; in the other, lessons of evil, encouragement of all that is bad, or at least no help to that which is good—no benefit from sickness, but rather, hardening.

Those who come out, from one, improved by their sickness, better fitted to be useful citizens and good Christians; those who come

from the other, assisted in the downward road. The one looked back to with sentiments of gratitude, the other remembered with shame and regret.

But if the desirableness of such a change is admitted, there still remains a very serious objection to placing the hospitals in charge of the Sisters of Charity. We refer, of course, to the fact that they are Romanists. To many, this would be sufficient to condemn all proposition to change from the present mode. This is not, in this view of it, a strictly medical question, but it bears on a change which is desirable for a strictly medical reason.

The Church of Rome has in its doctrines, as we believe, much dangerous error which we cannot but abhor, but it also has mingled with it not a little of truth. In its various religious orders, there is much that we should condemn, but there is much that we heartily admire. The good is mingled with the evil, but is not necessarily tied to it. There is, therefore, no reason why they should not be separated. Much less are we justified in condemning the whole as evil. The Order of St. Vincent de Paul has more that is to be commended and less that is objectionable than most others. Its members pass their lives in no cloistered seclusion, but in the duties of active charity. They strive to imitate our Lord in doing good. Their worship of the Blessed Virgin is, we believe, a most grave error and sin, but because of this their good deeds are none the less to be commended. Aside from their belief in the teachings, which are peculiar to and embrace the errors of Romanism, there is nothing objectionable in their Order, unless it be in respect of their vows, and upon this subject, when the period of the vow is limited to a single year, the best thinkers among Protestants are not unanimous. Perpetual vows are by all condemned. Why then may it not be copied in all that is good by Protestants? Shall we cease to worship God because the Church of Rome offers an impure worship? Shall we cease to care for the poor because Romanists are active in doing them good? To do so, though it would be in strict accordance with many other acts, would be in the extreme, absurd. Are not Protestant women as ready to devote a few years of their lives to doing good as are those who are Romanists? Does not love for fellow-men burn as strongly in the hearts of the one as of the other? We cannot do them the injustice to believe that it is not so.

But in fact such associations have been established by Protestants. In the English Church the attempts to form them have been repeated, but at this time we do not know of more than four that are in exist-

ence. These are all small, though doing all that could be expected from their numbers, and proving that it is possible for others beside Romanists to do good deeds in this way. On the European continent similar attempts have been more successful, and there are at this time, institutions of Protestant Sisters of Charity or Deaconesses, at Kaiserswerth, Paris, Strasburg, St. Loup, Dresden, Utrecht, Berlin, Breslau, Kônigsberg, Stettin, Stockholm, Ludwigslust, Carlsruhe, and Richen. These stand in the order of their age ; that at Kaiserswerth, which has 190 Deaconesses, was founded by Pastor Fliedner, in 1836 ; the last in 1852. The whole number of Deaconesses is 426. This is small when compared with 12,000, but the Order of St. Vincent de Paul has existed for more than two hundred years longer than that of the "Deaconesses," and the progress which the latter have made is very encouraging.

Some brief sketch of the work accomplished by these different institutions, so far as relates to our particular subject, may be of interest. That at Kaiserswerth has a hospital with 120 beds, which are generally full. More than 600 patients (Protestants, Romanists, and Jews) have been received by it since its establishment. A lunatic asylum containing fifteen females, is also under their charge. An infant school, an orphan asylum, a day school for girls, a normal school, in which more than 400 teachers have been trained since 1836, and a penitentiary for released female prisoners and magdalenes, are the other directions in which their charitable labors are turned. But this is by no means the whole influence of this single institution. It is the mother of the others, and many of its members have gone to aid in establishing similar institutions. Omitting these, we find that the Sisters are sent to other hospitals, as follows : to Berlin, to Dusseldorf, to Elberfield, to Barmen, to Lennep, to Cleves, to Mülheim, to Neuwied, Wetzlar, Kreuznach, Saarbrück, Dortmünd, Hamm, Soest, Lippstadt, Uetz, Stettin, Frankfurt-on-the-Oder, Frankfurt-on-the-Maine, Worms, Erbach, London (in the German Hospital), Constansinople, Jerusalem, Smyrna, and Pittsburgh. At Paris in 1852, there were thirty Sisters, and they have in charge, a small penitentiary, a refuge for criminal or destitute Protestant girls, an industrial school, a hospital with thirty-six beds, an infant school, and an elementary day school. Two Sisters were at Marseilles in a hospital, and two were similarly employed at Rouen. At Strasburg they have a small hospital, treating 154 patients in 1852. Seven of the Sisters of this house are stationed in a hospital at Mulhausen, and two in a lunatic asylum at Neufchatel. At St. Loup the Sisters' hospital contains thirty

beds, while they also serve in hospitals at Turin, La Tour, Mirlan, Bessinge, Chaux de Fond, Berne, and M. Guggenbühl's institution for Cretins. At Dresden the Sisters' hospital has from fifty to sixty beds, while they also serve a hospital at Zwickan. At Utrecht the Sisters' institution treated 122 patients in 1852, and they served in the hospital at Nymwegen. The institution at Berlin was founded by the King of Prussia, who built for the Sisters a hospital for 300 beds. Their superior is the Baroness de Ranzau, who has herself been through the usual training at Kaiserswerth. More than 5000 patients have been treated at the hospital since 1847. Two Sisters have been sent to a hospital in Silesia, and two to one in Potsdam. At Breslau 235 female patients were received into the Sisters' hospital in 1852. At Königsberg their hospital contains thirty-six beds. At Stettin a children's hospital with thirty beds, forms the nucleus of the institution. At Stockholm, Frederika Bremer gave the first impulse to the establishment of the Sisters' institution. Jenny Lind has also assisted it, but it is still small. We do not know how many beds their small hospital contains.

At Ludwigslust the institution was founded by M'lle Helene de Bülow, who having gone through the training at Kaiserswerth, returned home and opened a children's hospital at *her own expense*, in 1847. The rulers of the Duchy afterwards came to her assistance, and built a large wing to her little hospital. We do not know the number of beds. At Carlsruhe in Baden, the Sisters have only twelve beds in their hospital, but they nurse the sick at their own homes. This, it may be mentioned, is a very common addition to their other employments. This institution is said to have sprung from the want of christian nurses, which was felt during the war in Baden, in 1849, and the ravages of cholera at Mannheim in the same year. The institution at Riehen, near Basle, was opened so lately as the latter part of 1852, with a hospital containing 18 beds. All of these institutions are, we believe, under the control of the Lutherans. There are beside, a few other hospitals that are served by christian women, who are not associated formally as sisterhoods.

These all prove beyond cavil, that Protestant women in Europe, at least, are quite as able and willing as Romanists to enter upon these self-denying labors. Let us now turn to our own country.

(To be Continued.)

In our number for July, we noticed a preparation of "Iodine Water," of which samples had been sent us by a gentleman of this city. In that notice we ought perhaps, in justice, to have stated that our attention was first called to the possibility of producing a concentrated "Aqueous Solution of Iodine," by Dr. Henry W. Cansdell, of Brooklyn, N. Y., who tells us that, for some years he has been trying experiments, with a view to effect that object, in Paris and in London, with only partial success, but more recently in this city with the most satisfactory results; having found in the Croton water of New York, chemical properties which neither the waters of the Seine or the Thames appeared to possess. Dr. Cansdell has sent us some of the "solution" prepared by him, which has been very carefully analyzed by a skilful chemist, and is found to be a really pure and concentrated "Solution of Iodine" in water, uncombined with any other substance, and of a strength ten times greater than had hitherto been considered practicable by any of the chemists of Europe or the United States; thus placing in the hands of the Faculty a simple, easily controlled, and effective means of introducing pure Iodine into the system of patients in all those diseases in which the use of Iodine is indicated. Dr. Cansdell states that he has used this preparation with the most beneficial results in many severe cases of scrofula, rheumatism, and particularly in obstinate cases of intermittent fever, where the exhibition of quinine and "Fowler's solution" had failed to produce their usual effects. And in order that the Faculty may have an opportunity of testing the therapeutical value of this newly discovered preparation, Dr. C. has offered to furnish a gratuitous supply to any or all of the hospitals in this city; and with a liberality of spirit that should at least entitle him to the thanks of the profession, he has pledged himself shortly to acquaint us with the mode of preparing this addition to our remedial agents, which we shall have much pleasure in communicating to the Faculty.

The 32d reunion of German Naturalists and Physicians, postponed last year on account of the cholera, will take place from the 17th to the 21st of September inst., at Vienna. The Committee of Arrangements met on the 15th of July. The Committee of Organization, Professors Hyrtl and Schrötter, to whom were added Professors D'Ettingshausen and Rokitansky, sent several communications

to the Assembly, from which the following data, which may be interesting to our readers, are extracted :—

The Austrian government have renewed the donation of 20,000 florins, ($10,000), which it placed last year at the disposition of the Committee. A programme of the fetes to celebrate this grand scientific meeting, will soon be published.

The general public reunions, to which ladies will be admitted, will take place in the Redoutensaal; the sections will hold their sittings at the Polytechnic Institute.

All the foreign members will receive numerous presents of welcome, especially the seventh edition, enriched with steel plates, of the "Guide to Vienna and its Environs," by Doctor Schmydl. As an appendix to this beautiful volume, the Society of Zoology and of Botany, will give its Annual, containing the addresses of Naturalists and Physicians. Counsellor Knolz, Dean of the College of Doctors, has composed and has published, for this occasion, an elegant work, dedicated to the members of the Congress. It is an historical outline of the University of Vienna, especially of the Faculty of Medicine, and an abstract of the labors of the College since its new organization.

The Austrian administration will facilitate as much as possible all the formalities, ordinarily so rigorous of circulation and sojourn. Strangers will only have to show their passports at the frontier; their effects will not be examined at the Custom House, and the cards given by the Commissaires of the Congress. will serve them as permits of sojourn without the usual fee. With these same cards, they can visit the public collections, establishments, and monuments. A list will be distributed of particular collections of objects of art and of science, which their proprietors very liberally place at the disposition of the members of the Congress. The Society of Arts, of Austria, propose a National Exhibition, and the different learned societies open their rich libraries to visitors.

The Commune of Vienna, has had a commemorative medal struck, which will be delivered to the members of the Congress.

The Minister of Commerce has decided that special trains shall carry visitors to Mount Semmering, where the Commune of Vienna, will have prepared a hospitality, which the city of Bade will also offer them upon their return.

The days of the three general public sittings, grand dinners in common, will be served at the Hotel Zuno Sperl; upon the other days, strangers can, as they please, unite in small parties, make excursions into the environs, or enter into the interior life of the Viennese.

In order to avoid the difficulties of finding rooms in the hotels of Vienna, always full during the Summer season, the Committee, aided by the Commune, will ascertain all the private apartments which are to let, and proper measures will be taken. so that the moment foreigners reach Vienna, they can obtain every information as to rooms which are retained for them. Already many learned Viennese, following the example of the Dean, M. Knolz, have offered to open their own dwellings to some of the most eminent visitors.

The Committee have divided the Congress into sections, as follows; and have made out the list of persons who have offered their services as officers :—

Section 1.—Mineralogy, Geognisee, and Paleontology. Chairman, Haidinger; Secretary, Leydoldt.

Sec. 2.—Botany and Vegetable Physiology. Chairman, Fenzel; Secretaries, Kerner, Reissek, Pokorny.

Sec. 3.—Zoology and Comparative Anatomy. Chairman, Fitzinger; Secretaries, Kner, Frauenfeld, Wedl.

Sec. 4.—Physics. Chairman, D'Ettingshausen; Secretaries, Grailich, Pick.

Sec. 5.—Chemistry. Chairman, Redtenbacher; Secretaries, Pohl, Hinterberger, Schneider.

Sec. 6.—Geography and Meteorology. Chairman, Kunzek; Secretary, Schmidl.

Sec. 7.—Mathematics and Astronomy. Chairman, De Littrow; Secretaries Hornstein, Gernert.

Sec. 8.—Anatomy and Physiology. Chairman, Rokitansky; Secretaries, Engel, Patruban.

Sec. 9.—Medicine. Chairman, Skoda; Secretaries, Sigmund, Priess.

Sec. 10.—Surgery, Ophthalmology, and Obstetrics. Chairman, De Dumreicher; Secretaries, Blodig, Jæger, Spæth.

This is the Society to which Dr. Glück, of this city, was accredited by the American Medical Association, as its representative. Dr. G. is now on his way to Vienna, and we hope before a great while to give our readers interesting letters from him. What would our government say to a proposition to appropriate 10,000 dollars to such a purpose.

It is announced that Prof. Allen has resigned the Chair of Anatomy in the Pennsylvania Medical College, in Philadelphia, and that Prof. T. G. Richardson, of Louisville, Ky., has been appointed to fill the vacancy.

Dr. Richardson has long been connected with the Kentucky schools, and is favorably known to the profession as the author of a work on Anatomy. His appointment will, no doubt, prove an acquisition to the Institution, and advance its interests, especially among its friends in the West.

By imperial decree, dated July 1, 1856, young Vidal (de Cassis) son of the distinguished physician of that name, whom a premature death snatched from science, has been made pensioned pupil (with full pension), of the Imperial Lyceum. All who know the reputation of the father, while they regret that the son should need assistance, will rejoice that the Government has extended it to him.

Thirteen physicians of Piedmont died in the Crimea.

THE AMERICAN MEDICAL MONTHLY.

OCTOBER, 1856.

ESSAYS, MONOGRAPHS, AND CASES.

Selections from Favorite Prescriptions of Living American Practitioners. By HORACE GREEN, M.D.

Excitants and Alteratives. (*Continued.*)

We have spoken of the valuable properties of the *proto-iodide* of *mercury*, especially when this salt is administered with the iodide of potassium. There are several other salts, the product of iron and its combinations, which are medicinal agents of great value. The therapeutic action of these compounds is various. The iodide of *iron* acts as a *tonic;* the iodide of *mercury*, as we have stated, operates as an *alterative;* the *iodide* of *arsenic*, as an *excitant* and *tonic;* the *iodide* of *lead* as a *diuretic;* and the *iodide* of *sulphur*, acts most decidedly on the skin.

℞	Arsenici Iodidi	gr. iij
	Extract Conii	ʒss

Misce; Fiant pilulæ xxx quorum sumantur una ter in die.

This medicine, after many other remedies have failed, has been employed with great success, in the treatment of some most inveterate cases of certain chronic cutaneous disease; particularly lepra, psoriasis, and venereal eruptions. The dose may be cautiously increased to the $\frac{1}{3}$ of a grain, three times a day. When gastric disorder supervenes, the medicine

should be for a time suspended, and be subsequently renewed in the original dose.

Some practitioners in this country employ, with success, in the same affections, a combination of a solution of the arsenite of potash, and of the compound solution of iodine; as in the following extemporaneous preparation :—

℞ Liquor. Potassæ Arsenitis ℥ij
Liquor. Iodidi Potassii Comp. ℥ss
Fiat mist. cujus cap. gtt. v. ter. in die.

Both of the above preparations of iodine and arsenic are employed with great advantage, in the treatment of cancerous affections, particularly when these remedies are conjoined with the use of the following ointment of the iodide of lead, employed as an external application :

℞ Plumbi Iodidi ℥ij
Axungiæ ℥ij
Misce intim.

A small amount of this ointment may be rubbed in, twice a day, over cancerous, or other indolent tumors.

Under the head of *Tonics* and *Stimulants*, we have spoken of the therapeutic value of the iodide of *manganese* in the treatment of cancerous affections, glandular enlargements, and some other obstinate diseases. We have had prepared by an excellent apothecary of this city, after the formula of Proctor, a *syrup of the iodide of manganese*, which, as an excitant and alterative, is superior to the syrup of the iodide of iron, in the treatment of many diseases. This medicine—the syrup of the iodide of manganese—may be readily prepared in the following way :—

℞ Manganesii sulph. ℥xvj
Potass. Iodidi ℥xix

Dissolve the manganese and the potassium separately, each in three fluid ounces of water, to which are added two fluid drachms of syrup. When the precipitation of the crystals of sulphate of potassa, which will follow, is completed, filter the supernatant liquor through a fine muslin into a vessel containing *twelve ounces* of pulverized sugar. Then add to this, water sufficient to make the whole amount to *one pint*. Shake until the sugar is well dissolved, and keep the syrup in a glass-

stopped bottle. In tuberculosis, in scrofulous and cancerous affections, in the treatment of glandular enlargements, such as those of the spleen and of the neck, and in constitutional syphilis, the syrup of the iodide of manganese, administered in doses of from ten to twenty drops, twice or thrice a day, will be found to be a valuable remedial agent.

As *alterative* remedies, the preparations of *mercury* are more employed by practitioners, than any of the other inorganic agents. Administered in small doses, the *bi chloride* of mercury is a valuable excitant. Its effects are more decidedly *alterative*, says Neligan, than those of any other preparation of the metal. In cases of chronic follicular disease, where the symptoms indicate the presence of a thickening of the mucous membrane of the larynx, and in the early stage of some forms of pulmonic disease, we have found the bi-chloride of mercury a most efficient alterative, and altogether one of the best therapeutic preparations of this mineral.

℞ Hydrarg. chlorid. corrosiv. gr. iv
Extract. Conii ℈ij

Fiat massa. in pilulas quadraginta divide. Sumat unam, mane et nocte.

An experienced practitioner affirms that in hepatization of the lungs, the solid matter deposited in the air-cells is often absorbed and the cells rendered permeable to air by the use of this preparation. In irritable subjects, opiates should be conjoined with this remedy, as the mucous membrane of the stomach and bowels is sometimes irritated by its use.

℞ Hydrarg. chlorid. corrosiv. gr. iv
Extract. Opii gr. x
Extract. gentian. ℈ij

Misce ; Fiant pilulæ xl. quorum sumatur unam bis terve in die.

This preparation has also been highly extolled in secondary venereal affections, in chronic cutaneous diseases—particularly those which are attended with dry, scaly eruptions—and in chronic rheumatism and arthritis. The following is the formula of Dzondi of Halle, who is a great advocate for the use of the bi-chloride of mercury :—

℞ Hydrarg. chlo. corrosiv. gr. xii
Solve in aq. distil. q. s.
Adde micæ Panis albi.

Saccharis albi aa q. s. ut. fit pilulæ numero ccxl.

Of these pills—each of which contains the twentieth of a grain of the mercury—two may be given night and morning.

In many of the above chronic forms of disease, this medicine is advantageously administered, conjoined with a vegetable bitter tonic :—

℞	Hydrarg. chlo. corrosiv.	gr iv
	Tinct. Gentianæ	ʒiv
	Syr. Aurantii	ʒij

Misce ; quorum date coch. parv. ter. in die.

As an excitant and an alterative, in many of the diseases in childhood, the hydrargyrum cum creta has been more universally employed than any of the other preparations of this mineral. It is, however, like the blue mass, not always a perfect preparation, as it consists of metallic mercury in a state of minute division, mechanically combined with the sub-oxide of mercury, and the carbonate of lime. But it has not been ascertained in what proportions the metal and the oxide exist.

As a gentle and more certain laxative and alterative, and one equally well adapted for infancy and childhood, some eminent American practitioners prefer, altogether, the *chloride* of *mercury* minutely subdivided by being thoroughly triturated with a large amount of sugar.

To one part of calomel add ten parts, by weight, of white sugar.

℞	Hydrarg. chlorid. mitis,	ʒi
	Sacchari alb.	ʒx

Triturate the two substances in a wedgewood mortar for ten or fifteen minutes, so as to subdivide minutely, and intimately blend, the calomel and the sugar.

Those who have never tried the mercury thus prepared, will be surprised at the increased activity which will be imparted to the medicine, by this fine subdivision of its particles. Indeed, it is to this well-established fact, that many medicines become much more active by minute subdivision, that the whole secret of the Hahnemannic "potency," or dynamization of remedies, may be referred.*

* The editors of the "British Journal of Homœopathy," admit, in a late number of this Journal, "the theory of dynamization to be untenable, and that it is now rejected by the great majority of Hahnemann's disciples."—*Journal of Homœopathy, July*, 1852.

Five grains of the above preparation, will contain half a grain of calomel, and this small amount, taken on going to bed, will produce, with most persons, a mild laxative effect, the following day. With young children, half this amount, or from two to three grains of the medicine placed on the tongue, (and children take it as readily as they will pure sugar,) will be sufficient, ordinarily, to prove cathartic.

A physician of this State, of large experience, who practices in a region of the country where dysentery prevails as an endemic almost annually, assures us that this preparation of calomel is his favorite, and most efficient remedy, in the treatment of dysentery in children. He administers *one grain* of the powder, once in four or six hours; employing, at the same time, injections of a solution of morphia, to control the dysenteric discharges. With this plan of treatment he has succeeded, he affirms, in arresting the disease more frequently than with any other method.

More than twenty years ago, we were instructed by our preceptor—who has since been a distinguished lecturer and writer on Materia Medica—to employ the following combination, as our "officinal" preparation of calomel:

℞ Hydrargyri chloridi mitis, ʒij
Extract. opii.
Ipecac. pulv. aa gr. vj

Pulverize, and mix intimately and thoroughly, as in the preceding combination.

Thus prepared, every scruple of calomel will contain one grain each of opium and ipecacuanha, intimately combined with the mineral.

During a period of twenty years, we have used no other preparation of calomel than the above in our practice. We have recommended its employment in our lectures to the students and graduates of the N. Y. Medical College, and to many physicians, who have adopted its use; and we venture the assertion, that no practitioner, after having once employed this combination will prefer, afterwards, to prescribe pure calomel in the treatment of disease. Under all circumstances, a given amount of this combination, whether administered as a laxative or an alterative, will prove fully as efficient as double the amount of pure

or uncombined calomel; and without producing—whether given to children or adults,—at all that degree of irritation, which ordinarily follows the administration of the latter. As a laxative, from three to five grains may be administered to an adult, and from one and a half to three grains, to children.

Besides the excitants and alteratives which are obtained from inorganic substances, there are some important therapeutic agents of this kind belonging to the organic or vegetable kingdom, which are of much value.

The extract of *Podophyllum*, or *May-apple*, is much used as a remedial agent by physicians in some parts of this country; and when the remedial value of the preparations of this plant are better known, they will be still more extensively employed by the profession.

℞.	Extracti Podophylli	ʒj
	Extract. Aloës Hepat.	ʒiij
	Gambogiæ	ʒj

Misce: Fiat pillulæ lx.

The above constitutes excellent alterative and cathartic pills, and may be administered with great advantage in cases of hepatic derangement, in anasarca, and in all glandular diseases.

The following is the favorite cathartic pill of an eminent practitioner of Connecticut:—

℞.	Extracti Podophylli	ʒij
	Hydrarg. Chlorid. mitis	ʒv
	Olei Cajuputi gtt.	vj

M. Fiat massa, in pillulas lx. div.

Instead of the extract we have recently employed the *podophyllin*, which is the active principle of the plant, obtained from its root, and which from the commendation of several of our professional friends and from the trial we have ourselves made, we are confident will prove to be an addition to our Materia Medica, of great value.

Judiciously administered, it is a superior excitant and alterative, and in appropriate doses, a certain and safe cathartic. Care should be taken not to prescribe this remedy in too large doses, as it is apt to produce griping and nausea when thus administered. This, however, is said to be effectually prevented by combining the medicine with a diffusible stimulant.

℞. Podophyllin gr. xv
Zinizberis pulv. ʒss
Ext. Gentianæ ʒss
M. Fiat mass. et in pillulas xxx div.

These pills may be administered in all cases in which the blue mass or other mild mercurials are given. This remedy has been highly recommended in cases of secondary syphilis, when mercury has been long continued or is from any cause inadmissible. Administered in a full cathartic dose it is declared to have been eminently successful in the expulsion of ascarides; and also, when thus administered and followed in four or six hours with a full draught of olive oil to the amount of four or six ounces podophyllin has proved successful it is said, in many instances, in the dislodgment and expulsion of large quantities of biliary calculi, with very little pain. Triturated with sugar in the same manner as we have recommended calomel to be prepared, podophyllin is a most excellent laxative and alterative.

℞. Podophyllin ʒj
Sacchari albi ʒxix

Mix and triturate until the two be finely subdivided and thoroughly blended. As a mild laxative and alterative, this powder may be exhibited in doses of from five to ten grains. The medicine may be given in all cases where mercurials are indicated.

Cholera Infantum. Remarks on the Prize Essay by James Stewart, M.D. By Gch, Dayton, Ohio.

Few, who read this Essay, will rise from its perusal with their anticipations fully realized. Coming, as it does, from a Medical Association, aiming to be the most learned, if not the most exclusive of any on this continent, it falls short of what might be expected. The announcement, during the past year, that the New York Academy of Medicine had offered a prize for the best dissertation upon Cholera Infantum, excited professional anticipation—especially in the middle latitudes of the United States—in no small degree. As the time drew near for the annual incursion of this disease, those whose repeated

failures in the treatment of it had aroused the suspicion that our views concerning the nature and treatment of the affection were not based upon sound medical philosophy, naturally turned to the forthcoming work, with a lively hope that, through it, our understandings might be enlightened upon the nature, pathology, and treatment of cholera infantum; confidence be restored to the physician; and security guaranteed to the nursery, against the ravages of a fearfully fatal disease. This hope gained strength in a knowledge of the fact, that ample facilities are now offered in the public charities of our large cities for the study of this disease, and upon the supposition that the opportunities thus furnished, had been turned to a good account by those whose fortune it had been to enjoy them.

The prize has been awarded, and the Essay published, for the accommodation of the members of the Academy of Medicine only, and not for general distribution among physicians; and if any apology is necessary, this fact shall be my excuse for reproducing the leading features of the paper, with the addition of such comments as the nature of the subject appears to demand.

After alluding to the endemic nature of cholera infantum, and the unerring certainty of its appearance in the cities throughout the land at each returning Summer, the essayist proceeds to consider somewhat formally, the *etiology* of the affection. "There is no disease which appears to demand so close an investigation of this nature, for there is none which has its pathology so intimately connected with the action of the agencies which are in constant exercise in its production, and in its maintainance throughout its course. The combination of these active agents—constituting what is known as climate, the more special local agents, and the physiological peculiarities of the period of life at which the disease occurs—it will be seen, are all connected in the production and maintainance of the same pathological results, so formidable in their action, and so obstinate in their management. These circumstances are not to be regarded as mere isolated facts, but as an important group, which are essential, when connected with the phenomena of the disease and its morbid anatomy, to illustrate the morbid condition of the system: none of them can be separated

without impairing the relations they bear to the nature of the disease."

Foremost among the agencies producing cholera infantum, the author places *atmospheric heat.* This has attended the development of the disease with scarcely an exception, in New York; the increasing heat keeping pace with the increasing number of seizures. In 1816, he informs us, that but one death of the above disease is officially recorded in that city. This Summer was singularly cold, the thermometer, up to the 25th of July, indicating 15° or 20° less heat than usual, during the same period in other years. Without attempting to follow the essayist in his deviations upon this subject, I will state briefly, that he considers the primary action of heat upon the economy of infancy in producing summer complaint, to be upon the lungs. It operates in "interfering with the proper discharge of the respiratory function, this act being the introduction of oxygen during inspiration, and the ejection of the carbonic acid during expiration."

Excessive humidity of the air is assigned as a second element in the causation of cholera infantum. This department of the Essay is characterized by some research, and constitutes the leading feature of interest in it. Humidity is just at this time attracting considerable attention as a source of zymotic diseases, and the author of the paper under consideration, applies what is known upon the subject, with much appropriateness, to cholera infantum.

"The temperature, at which moisture is deposited, is usually taken to ascertain the amount of moisture in the air. When the temperature of deposit, or, as it is termed, the dew-point, is high, and especially when it continues high for some time in hot weather, the system feels its depressing influence. All persons suffer from a sensation of lassitude and sweltering oppression at such times; and no class equal to young children.

"In our investigations upon the subject of atmospheric humidity, and its relations to the disease under consideration, we have examined various localities, and found, as was expected, that a great difference existed. * * * After careful comparison, we have come to the conclusion, that ordinary climatic

humidity has but limited influence in the development of cholera infantum.

"The same amount of moisture often exists in country places as is found in the city, and where the disease was never known to originate. We therefore directed our attention to the occasional state of the dew-point as it occurred where the disease was most prevalent, and discovered a great difference within doors, between it and the general dew-point of the external air, continuing often for a long time.

"The first observtion made, was that the moisture was always greater nearer the surface of the earth; the difference we have ascertained at times to be 4°. Cellars and basements must therefore always be in a state of excessive humidity, as is known to most persons, requiring no philosophical instrument for its detection.

"The second is, that in very hot weather in excessively crowded houses at night, when all are within, the dew-point is very nearly at the temperature of the air; consequently, the air is saturated with moisture. With a temperature of 90° or 95°, and a dew-point in a crowded room almost equal to the temperature, a feeling of suffocation is experienced, which is easily accounted for, when it is known that the dew-point of the breath as it is expelled from the lungs is 94°, and that the mean dew-point of the atmosphere is 38°; and also, that in the hottest weather it rarely exceeds 70°. When the air is loaded with moisture and deposited at a temperature approaching that of the living body, inspiration is difficult and unsatisfactory, while the system suffers great depression. * * * * *

"The air always contains moisture, and in proportion to the amount is the quantity exhaled from the lungs. Thus, air containing moisture that is deposited at 38°, the average of this climate, will allow a much greater evaporation from the lungs than when the temperature of the dew-point is at 70°.

"It has been shown by the experiments of Dalton, that the quantity of vapor contained in a cubic inch of air when the dew-point is 38°, is .00166852 grain; when at 94°, the amount is .00938243 grain. The last mentioned is the dew-point as it is expelled from the lungs whatever may be the temperature of the surrounding air, and this is the amount of vapor contained

in a cubic inch of air as it passes from the lungs of an adult. If the air before inspiration be overloaded with vapor, it is obvious that it must prevent to a certain extent, the depuration from the lungs. We have found, however, that unless the amount of vapor in the air very nearly approaches that passed from the lungs, no very marked effects are produced, but a sense of oppression and suffocation arises when it approaches that point.

"The weight of a cubic inch of vapor at 88°, is .00789288 grain, which is .00622436 more than the mean of the climate, and .00158153 less than the amount contained in the pulmonary vapor. If these be multiplied by 1-152,800, the number of cubic inches inhaled in a day by an adult, according to Thompson, Menzies, and others, the result will be respectfully, 7170 and 1811 grains; the difference between the two—5359 grs.—will give the lessened amount of transpired pulmonary vapor. When at 70°, the highest in this climate, the weight of a cubic inch of vapor is .00461639; if this be subtracted from .00938243, which is the quantity in a cubic inch of respired air, it will leave .00476604, which, multiplied by 1-152,000 will give 5490½ grains of water evaporated from the lungs, when the air is inhaled at a dew-point of 70°. These statements will show how much an excessively high dew-point must interfere with a proper depuration of the lungs.

"Another source of embarrassment to a full depuration of the lungs, is the increased elastic force of air at a high temperature. According to Dalton, this power, at 38°, is .264, and at 88°, 1,286 inches of mercury. There are, therefore two obstacles to a free exhalation from the lungs in an inordinately moist state of the air."

The foregoing elements—heat and moisture of the air, constitute, according to the author, the primary link in the pathology of cholera infantum. They jointly conspire, by preventing the due decarbonization and depuration of the blood, to the production of a vitiated condition of the vital fluid, which is inimical to health. The effete matter which seeks an outlet through the lungs, but is prevented from gaining exit through this avenue by the circumstances above detailed, must be removed by the vicarious action of some organ adapted to the work. The liver is best fitted for this purpose, and when a persistent

tax is thus imposed upon it, in ridding this fluid of its superabundance of carbonaceous matter, a diseased function, and change of its minute structures will almost surely follow. This constitutes the second link in the pathological chain of the disease under consideration.

It is unnecessary to follow the author through several pages of recorded circumstances and incidents drawn from various authors on derangements of the lungs and liver, to establish the vicarious action of the liver in hot climates and seasons. I will therefore give the following paragraph, which sets forth his views fully upon this subject: "There being no proof that the active cause of cholera infantum directly affects the mucous membrane of the intestines, but abundant evidence that they do produce a morbid change in the liver—congestion and inflammation, this organ is probably the first of the abdominal viscera that is affected in the disease, by the establishment of a vicarious action; the lungs not freely relieving the system, and the liver being a supplementary organ, performing a part of their function."

The third link in the pathology of cholera infantum, is disease of the mucous surface of the intestines. This is the immediate result of a stasis of the portal circle, depending upon a morbid action primarily established in the liver. In aiding an easy transition from the physiological to a pathological condition of the mucous crypts of the intestines, the author avails himself of the rapid development which is going on in these parts during the progress of dentition. This *period of dentition* he records among the predisposing causes. "The follicles, in the natural course of development, having just passed into a state of activity, are thereby prepared to have an additional or excessive development on the application of sufficient causes; and then the transition is both rapid and easy from a healthy to a diseased state.

"The normal follicular action passing into an abnormal state, under the three atmospheric causes—heat, moisture, and malaria—of the diseases, is affected through the agency of the liver; which we have seen is the part on which all these causes exercise their power. They produce disease and alterations in its density and texture, and thereby the passage of blood, that is

returned through it from the intestinal surface, is obstructed. Congestion of the mucous membrane and its follicles take place, and nature seeks relief by an inordinate secretion from them, already in an exalted state of action. When morbid action is once established, congestion, inflammation, and ulceration is the course naturally to be expected.

"It appears, therefore, that cholera infantum is a disease connected with the development of the body, and is the most remarkable instance of the relation subsisting between the growth of parts, and the diseases of childhood and infancy."

"Inappropriate food" and the "malaria of large cities," are the remaining causes which, according to Dr. Stewart, are essential to the development of cholera infantum.

This theory of the remote action of atmospheric agencies operating through the lungs and liver in developing congestion, inflammation, and ulceration of the mucous follicles of the intestines, is to say the least of it, attractive and plausible, and is calculated to impress the superficial observer, as highly probable. But unfortunately for the author, it lacks facts to sustain it: indeed, the whole *record* is against any such assumption. The author's idea in reference to the successive steps in the causation of cholera infantum, according to his statements, appears to be this: A want of decarbonization and depuration of the blood by the lungs, superinduces a supplementary or vicarious action in the liver; a continuation of this superadded function, produces congestion or induration in this latter organ, and this condition is followed by remora of the portal circle, which, acting in turn upon the mucous follicles in a state of development, results in congestion, inflammation, and ulceration of these structures, and cholera infantum is the result. This state is supposed to be produced by heat, moisture, and malaria, existing in the atmosphere. Now taking these circumstances as our guide, let us see how much truth can be gathered from the author's theory.

In considering this subject, the fact must be constantly borne in mind, that well defined, distinct cholera infantum, is confined in a great measure to a belt of country, only a few degrees in width, embracing the central portions of the United States. Any theory therefore, which refers the cause of this disease to

agencies that are general and diffused in their action upon society, must necessarily prove fallacious. One law in etiology is, that effects will be distinct and active in proportion as the causes are palpable and concentrated upon the human economy. According to this principle, if Dr. Stewart's theory be correct, cholera infantum ought to prevail wherever a high temperature, humid atmosphere, malaria, and infancy existed jointly; and the severity of the disease should be in proportion to the activity of the combined causes. But this is not true. More children annually fall victims to cholera infantum between the parallels of 35° and 45° of North latitude, perhaps, than all the remaining portions of the inhabitable globe. These parallels embrace the southern portion of the temperate zone, the former, 35°, corresponding pretty generally throughout its eastern two-thirds across this continent, with the isothermal line of 60°. This latter line passes through the northern portions of the Carolinas, Georgia, Alabama, Mississippi, Arkansas, divides Texas about its centre, dips northward into the interior basin of Utah, strikes the Nevada and is deflected as high as the 41° North latitude, and finally emerges into the Pacific, from the coast range at the 34th° North latitude. This defines with some degree of accuracy, the southern boundary of that region in which cholera infantum produces its greatest ravages. The appearance of the disease is by no means rare, however, in the warm zone; yet it seldom becomes unmanageable in this or any region South of the above line. Nor does cholera infantum extend entirely across the continent of America even in those latitudes where its greatest prevalence is exhibited. As we proceed to the West from the Atlantic, and approach the oceanic climate of the Pacific, the disease, as might be expected, again disappears; for reasons which will be assigned as operating in securing the inhabitants of the warm and hot zones, from the action of the disease under consideration.

By an examination of the climate of the region which is the peculiar habitat of cholera infantum, and contrasting it with that where the disease does not prevail, it will be found to present remarkable peculiarities. For instance, in New York, lattitude North, 40° 42′, exhibits a range between the mean temperature of Summer and Winter of 41 degrees; Philadelphia,

latitude North 38° 40′, 44 degrees; Cincinnati, latitude North 39° 06′, 40 degrees; St. Louis, latitude North 38° 40′, 44 degrees; Baltimore, latitude North 39° 17′, 40 degrees; Rochester, latitude North 42° 45′, 41 degrees; and Chicago, 41° 52′, 42 degrees. Thus it appears, in all this vast range of country, the mean difference between the heat of Summer and the cold of Winter is about 43 degrees, and varies only 4 degrees or 5 degrees. As soon as we cross the isothermal line of 60° and enter the warm zone, the difference in this respect is strikingly apparent. To illustrate, Charleston, latitude North 32° 42′, only has a range of 29 degrees; Savannah, latitude 32° 5′, 27 degrees; Mobile, latitude North 30° 40′, 26 degrees; New Orleans, latitude North 30°, 24 degrees; Key West, latitude North 24° 32′, 12 degrees; San Francisco, latitude North 37° 48′, 9 degrees; and Monterey, 36° 63′, 7 degrees. The same is true when we cross the Atlantic, and examine the climate of the large cities of the East. Paris, latitude North 48° 50′ furnishes a range of 27 degrees; London, 51° 53′, 22 degrees; Canton, 23° 8′, 28 degrees; and Edinburgh, 55° 57′, 19 degrees.

This fact is also rendered more apparent by tracing the parallels of latitude. San Francisco on the Pacific, St. Louis on the Mississippi, Norfolk on the Atlantic, Cadiz in Spain, and Lisbon in Portugal, all are situated about the 37th degree North latitude, and have respectively a mean annual temperature of 55°, 56°, 59°, 62°, and 61°; while the difference between the mean temperature of Summer and Winter is respectively 7°, 44°, 36°, 18°, and 18°. The same is true, when the higher parallels of latitude in the temperate zone are examined and compared with those of the East. Boston, Mass., Chicago, Ill., Albany, N. Y., Marseilles, France, are situated on the 42d parallel of North latitude, and Fort Steilicom, Oregon, in latitude 47°, and have respectively, a mean annual temperature of 48°, 46°, 48°, 58°, and 50°, while the thermometrical difference between the mean temperature of these places in the order of their enumeration, is 41°, 42°, 45°, 27°, and 16°.

The above are significant facts and certainly furnish a clew to the etiology of cholera infantum. It thus appears, that the

central and eastern portions of the temperate zone of the United States, exhibit a mean thermometrical difference between the warmest and coldest meteorological seasons, doubling, tripling, and in some instances, quadrupling that of the western section of the same latitudes, of the warm and hot zones of this continent, and indeed, of European latitudes generally. But as striking as this may appear, they convey but an imperfect idea of the extremes that take place in the temperature of temperate zones. The Winter furnishes a degree of cold equal to that of Warsaw and St. Petersburg, and the Summer, the intense heat of the tropics. The mean range between the warmest and coldest day during the same year, amounts from 83° to 90° Fahrenheit, and the range between the maximum and minimum, is often equal to 110°, and 115° Fahrenheit. In the western districts of this zone, on the same parallels of latitude in California, the range between the maximum and minimum does not exceed 54° Fahr., and the same obtains in some portions of the transatlantic hemisphere. It is true, that at Paris, Prague, St. Petersburg, and Moscow, the maximum and minimum temperature is occasionally equal to the above, but they are of rare occurrence. Indeed, instances are on record in which the foregoing extremes have been exceeded by 45° Fahrenheit. During the celebrated expedition of Capt. Parry, in 1819–20, the maximum daily temperature at Melville Island, latitude 70° 47′ North, the 17th of July, was 50° above zero, while the minimum on the 15th of February, was 50° below zero ; the maximum and minimum points being separated 110 degrees. In 1840, while the Russians were on an expedition to Khiva, the mercury fell 54° below zero, and in June, it rose to 114°, making a variation of 160 degrees. At Franconia, New Hampshire, July 13, 1849, the mercury rose to 102°, which was 140° higher than on the 6th of February of the succeeding year.

A certain degree of cold—zero or thereabout—appears essential to the development of a predisposition to cholera infantum. This is deducible from the fact, that however intense the heat, or excessive the humidity and malaria, these agents never produce the disease, unless they form part of a climate, having for one of its constituent elements, a low thermometrical range. In

other words, cholera infantum does not prevail in those latitudes which furnish an uniform climate, with mild Winters merging into genial Spring, nor where the Summers are cool, partaking of the nature and character of the preceding Winter; but the disease produces its greatest havoc, when the greatest extremes uniformly obtain between the mean range of the warmest and coldest meteorological seasons.

Let us examine, briefly, how Dr. Stewart's theory corresponds with the above facts. He claims that cholera infantum is produced by the joint agencies of atmospheric heat, high dew-point, and malaria of large cities, operating upon the economy of infancy in a state of rapid transition to maturity. He likens the action of these causes in the production of this disease, to the operation of the same agencies in tropical climates in developing diseases of the liver and intestines in adult subjects. These latter he assumes as his standard of pathology, by which he compares and illustrates the subject under consideration. A few facts will be sufficient to demonstrate the utter fallacy of this doctrine.

First, cholera infantum is endemic to the United States, and exhibits its greatest virulence in the eastern and middle portions of this region.

Second, this disease never prevails in those latitudes and localities where the above agencies—heat, moisture, and malaria—exist most persistently and in their highest forms of concentration.

Third, idiopathic affections of the liver depending upon the action of these agencies, are rare in those districts which exhibit the greatest amount of cholera infantum.

Fourth, as we proceed South from the isothermal line of 60°, cholera infantum gradually decreases, while affections of the liver, and the agencies which produce them, increase; the former in frequency, and the latter in intensity. These facts are utterly at variance with the theory of the author.

A practical illustration will render the inconsistency of Dr. Stewart's theory still more apparent. In New Orleans, the mean thermometrical condition of the air during the Summer months, is generally 80° Fahr., with an average dew-point of

about the same number of degrees. These are the circumstances, also, which produce malaria in large cities, in its most virulent forms, and yet cholera infantum is a disease almost wholly unknown among the children of that sunny region, while affections of the liver are of daily occurrence. And so on, just as we approach the isothermal equator, will all the agencies recognized by our author as contributing to the production of the disease under consideration, increase in intensity; and still, cholera infantum forms no part of the pathology of the tropics. We must, therefore, seek for the cause of cholera infantum in other agencies than those enumerated by the author of this essay.

The district of country in which cholera infantum prevails most extensively, presents a climate peculiar to it alone. The great variations, ranges, and extremes of temperature, are rarely equalled anywhere; and were I disposed to offer a theory to account for the development of the disease, with these facts before me, I certainly would be inclined to refer it to the great ranges and extremes of temperature acting upon the sensitive organism of infancy during the period of active development; and not to agencies which are general in their action, and exist in their most concentrated forms, where cholera infantum never prevails.

The marked influence which cold exercises in developing a predisposition to disease of the alimentary system, has long been known to the profession; and finds an apt illustration in individuals visiting the tropics during the Summer season, from northern latitudes. Few, if any, are able to resist successfully the pernicious influences which are thus brought to bear upon them during the first and second years of their residence in these regions of high atmospheric heat. After their systems once become accustomed to the excitement which results from the above agent, or becomes acclimated, the tendency of the liver and intestines to take on morbid action, in a great measure, is lost. In some instances, however, it requires several successive Summers to produce this result, and until it does take place, visitors are constantly exposed to the endemics of these regions.

The above circumstances obtain and apply, though in a less

marked degree perhaps, to children born in the temperate zone. The extremes of temperature furnished by this region are, to them, what a sudden transition from the temperate to the hot zone would be to an adult; and the period of acclimation experienced by the former, is not unlike that of the latter. Children often have cholera infantum during their second, third, and fourth Summer; and they rarely suffer from the disease until they have passed one Winter. I, of course, do not assume that these extremes are the sole, or even controling agencies in the production of cholera infantum, but am of the opinion that they exercise a marked influence, and supply a lacking element in Dr. Stewart's theory of the etiology of the disease, which refers it to heat alone. But I yield to the admonition, that too much space is being occupied in considering the etiology of cholera infantum, and will therefore pass over the next department of the essay, Semeiology, and give the treatment a passing notice. There we find nothing that is new. Indeed, I cannot resist the conviction that it is incomplete, inconsistent with the pathology as laid down by the author, in one or more features; and in others, erroneous from a misapprehension of the nature of the pathology, constituting the third stage of the disease.

"In the treatment, it must be kept in mind that the use of therapeutic means is of little avail while the active agents in the production of the disease are in continued action upon the system." This state of affairs uniformly obtains in all miasmatic diseases—and indeed all affections depending upon atmospheric causes, and yet, we have learned in this prize essay for the first time, that "therapeutic means are of little avail, as long as the active agents in the production of the disease are in continued action upon the system." In this district of country, the persistent action of malaria upon those who are suffering from miasmatic diseases, certainly proves one of the great barriers to permanent convalescence; yet, few physicians would advise all their patients thus affected, to seek mountain air for the cure of these affections. The causes producing cholera infantum are not more constant in their action upon infants, than is miasm upon adults.

"Cholera infantum in its progress, appears in three different

conditions or stages. The first is marked by an increased activity of the bowels, the second by inflammation and ulceration, and the third by complications." When diarrhœa occurs in teething children, at a period when cholera infantum prevails, our author is accustomed to "regard its probable termination in that disease. For this condition he first prescribes soda or potash, with sugar or gum arabic. If this fails, he orders chalk mixture, and when the diarrhœa is in no degree controlled by this remedy, vegetable astringents are added. They (astringents) may be freely employed if there exists no febrile action, or heat of the abdominal surface." Cutting the gums and frictions with mercurial ointment, rendered stimulant by powdered gum camphor, embraces the early treatment.

This system of medication is certainly not consistent with the author's views of the pathology of the disease. And it is an incontrovertible fact, that the above, or some similar method of medication addressing itself exclusively to the intestinal tube, will, in the early stage of the disease, cure many, if not a decided majority of the cases of cholera infantum. When there is a simple relaxed state of the bowels, or an increased number of liquid stools, without obvious evidence of hepatic derangement, sugar of lead and morphia, with stimulating embrocations to the abdominal region, will often control the case independent of anything additional, aside from proper food and good nursing.

It will be borne in mind that the author's idea of the pathology of the disease consists in congestion of the liver, and remora of the portal circle, tending to produce inflammation and ulceration of the bowels. If, with him, we take it for granted that the diarrhœa of teething children, occurring during the Summer months, be the first stage of cholera infantum, it does appear to me a needless waste of time, and a hazardous procedure, to tamper for several days with antacids and absorbents, in the treatment of a disease, which destroys from ten to twelve per cent. of the whole number of children under five years of age in some cities. The next agent used is little, if at all, better. Indeed, I have but limited faith in the salutary action of vegetable astringents in the early stage of this disease, even when joined to more appropriate remedies. This condition—

acidity of the primæ viæ—for which the antacids were prescribed, will disappear as soon as the cause upon which it depends is removed. Then too, by a union of the acid and alkali in the intestinal tube, a cathartic salt is occasionally produced, and the very condition which the remedy was designed to control, will be aggravated. The occasional accumulation of cretaceous substances, in the bowels also, after their repeated administration, furnishes a fair presumption that articles of this kind might not always be the most salutary in their action, upon the mucous surface of the intestines in an irritable and inflamed condition.

Hydrargyrum cum creta, Dover's powder and magnesia is his next prescription. If vomiting be persistent. the Dover's powder should be withdrawn.

"When the disease is fully formed, mercurials become indispensible to its management, and the best form is calomel. From the twelfth to the eighth of a grain should be administered every two. four, or six hours, intimately combined with some inert substance. as fine sugar." This combination is a valuable one, but instead of making it into a syrup, as directed by Dr. Stewart, I prefer to drop the powder upon the tongue of the little patient, and allow a few drops of water immediately after it. When there is any great repugnance on the part of the subject to the use of medicine, this remedy may thus be administered while the child is sleeping, without it being conscious of the fact.

"The calomel should be continued as the principal means of relief, until freshly secreted bile appears in the evacuations. * * * * * When a free circulation of blood from the intestines is secured, and the congestion of the remote branches of the portal vein relieved, the disease then comes under control."

Whenever it has been deemed advisable to resort to the use of astringents, we have been in the habit of suspending the mercurials for a short time. Tannin, either pure, or as it occurs in kino or catechu, will often temporarily arrest the discharge. One of the most efficacious astringents is the acetate of lead, combined with Dover's powder, in the proportion of a third of a grain of the former to a twelfth of a grain of the latter."

"At the commencement of the disease it—opium—should never be used," and yet the author prescribes Dover's powder in the first stage of cholera infantum, combined with Hyd. cum. creta.

"Such are the general measures, the best adapted for the cure of cholera infantum, and are those which should be adopted in the onset of the disease, and with occasional modifications, used throughout the course."

The above embraces the general treatment of the first stage of cholera infantum, as laid down in the Essay under consideration; and in addition to it, in the second stage, when inflammation and fever appear early, leeches to the anus or dry cups to the abdomen are counseled. Calomel and Dover's powder form his favorite prescription. In this state also, nitrate of silver and balsamic preparations have been found beneficial.

"The third stage is the period of complication. When the cerebral symptoms, such as congestion and stupor appear, very little, if any, treatment is of any use. We have often resorted to the various modes of combating congestion of this organ at this period, and have as often failed in obtaining any relief. We regard, therefore, the symptoms making this stage as preceding a fatal termination."

The author places great stress upon the use of gelatin in solution, as an article of nourishment, believing it to be a valuable substitute for all species of farinaceous diet. I suppose that he is aware of the fact, that this substance will not sustain life for any considerable length of time. It has been demonstrated that animals fed upon it alone, will die almost as soon as though nothing at all was allowed. In exhausting diseases, such as cholera infantum, something more decidedly nutritious than gelatin is certainly commendable, indeed indispensable to the security of the little patient.

I have thus presented somewhat in detail, the leading features of the treatment of cholera infantum, as laid down in this prize Essay. It will strike those who are familiar with the affection, as being in some respects defective, and in others inappropriate and hazardous.

Without stopping to enquire by what precise steps the liver at first becomes involved in the morbid action of cholera infan-

tum, for all therapeutical purposes, it is sufficient for us to know, that this organ, often at a very early period of the disease evinces signs of derangement in frequent acid, light colored stools, or stools abounding in insoluble curds of milk. One or the other of these conditions may be present from the very beginning, and constitute the first signs of cholera infantum ; depending upon a want of healthy secreted bile in the primæ viæ.

Any system of treatment which addresses itself to the restraining of these free motions, or the correction of the symptoms depending upon the acidity—such as antacids and astringents—only tends to remove a single symptom, without affecting in any manner the original elements of disease, upon which their condition depends. In all cases, therefore, when this form of "diarrhœa appearing in teething children at a season when cholera infantum is prevailing, it is proper to regard its probable termination in that disease." Then if our views of the pathology of this condition is correct, the secretion of the liver, and not the intestines, should receive our earliest care. A few portions of calomel and opium or morphine—the latter being carefully adapted to the age and condition of the patient, —will unload the hepatic branches of the portal circle, by the production of a gentle secretion of bilious matter, and a serious, perhaps fatal, attack of cholera infantum arrested.

Frequent use gives different practitioners confidence and familiarity in the effects of different preparations of mercury, and it is not unfrequent on these grounds, that some prescribe a particular combination—calomel, blue chalk or mass, to the entire exclusion of the others. When it becomes necessary to administer mercurials, it is not a matter of much moment in my judgment, what article is made use of in cholera infantum, so that it is pushed until its gentle action upon the liver is apparent. Anything short of this will be insufficient.

When the diarrhœa is profuse and exhausting, and the stools partake of the nature just described, some astringent must be added to the above prescription, to prevent exhaustion, until the mercurial has time to act upon the liver. There are several reasons why sugar of lead is better in this condition than any thing else. When in solution, its effects are peculiarly soothing to inflamed and irritable surfaces, internally or externally.

It contributes often in a remarkable manner, towards allaying nausea and vomiting; and in passing through the intestines it enters directly into chemical combination with compounds of sulphurated hydrogen, thus removing an additional source of irritation. These joint circumstances peculiarly adapt it to the early stages of cholera infantum.

The great error of the Essay, however, is the principles advanced in connection with the third stage of the disease. I have quoted all the author has to say upon the subject, for the benefit of those who may trouble themselves with perusing this imperfect review. As long ago as 1841, Marshall Hall, and about the same time Dr. Gouch, called the attention of the profession to the true nature of cerebral symptoms, following exhausting diseases, and especially diarrhœa. They demonstrated most conclusively, the spurious nature of these symptoms of congestion. The former denominated the condition, *hydrocephaloid disease*, and the latter, *symptoms in children erroneously attributed to congestion of the brain.* During the progress of cholera infantum, if the diarrhœa and vomiting are severe, symptoms will supervene at an early hour, strongly simulating real congestion of the brain; and there is no condition which requires greater precision in diagnosis than this. The patient grows extremely sensitive; suddenly shutting the door of the apartment, a heavy step, or even handling its clothing, arouses the patient from its half slumbering state, agitated almost to the point of actual convulsion. The countenance becomes more anxious, the brow knits, pupils contract, eyes turn up in their sockets, the face flushes, and the pulse rapidly increases in frequency, but loses in force and volume. The head rolls from side to side, the fingers clutch the hair or an ear, or occasionally are thrust deep into the mouth and fauces.

These symptoms if not promptly met by the appropriate treatment, rapidly grow worse and the patient dies comatose or in convulsions. The history of the case, the cerebral symptoms supervening upon exhausting diarrhœa and vomiting, extreme irritability of the patient, rapid, compressible pulse, anterior fontanel sunk below the level of the cranial bones, are the main features upon which dependence must be placed in forming a diagnosis in this condition. "Under no circum-

stance," says West, "are mistakes more easily committed, and never are their results more mischievous, than when spurious is treated for real congestion of the brain."

The proper treatment for hydrocephaloid disease, consists in the use of tepid baths, fomentations to the bowels, with the internal administration of stimulants, anodynes, and nutriments. Of these, laudanum, wine-whey, brandy-toddy, beef and chicken tea, are the best articles. The above condition must not deter the practitioner from making use of remedies to restrain the action of the bowels when diarrhœa persists, and maintain the secretion from the liver. Nor, must he hesitate to give anodynes, until quiet is secured and excitability overcome. Dr. Stewart says, that "we have often resorted to the various modes of combating congestion of this organ at this period, and have as often failed in obtaining any relief." This result is about all that could be expected from the "usual method of combating congestion of the brain," when applied to a condition of this organ, depending upon a want of the due amount of healthy blood being sent to it, rather than an excessive repletion of the organ.

How the author should fail to recognize an anæmic condition of the brain as the parent of those symptoms simulating congestion, is to me unaccountable; and with our present knowledge of the pathology of this condition, it certainly is scarcely excusable. Coming from an author of a "Practical Treatise upon Diseases of Children," and bearing the endorsement of the New York Academy of Medicine, it certainly is calculated to mislead the profession, and enure to the detriment of scientific progress. I look upon the separation of these symptoms from the morbid condition of the brain known as true congestion, as being one of the genuine triumphs of this progressive age, and to be placed back at least fifteen years—as this position contemplates—upon this subject, is not compatible with the genius of our science. I have certainly cured more than one patient presenting the above symptoms, supervening upon cholera infantum, by morphia, wine-whey, beef and chicken tea, alterants, astringents, and stimulating baths.

In addition to the above defects, the Essay is imperfect in failing to recognize and treat of the most usual complications

and sequellæ of cholera infantum ; and although these derangements are not confined exclusively to the disease under consideration, yet they are so influenced and modified by the morbid agencies giving origin to them, that they require special medication. Among the more prominent and important of these, are, chronic hepatitis, tabes and purulent accumulations in the subcutaneous cellular tissue, as a result of imperfect assimlation, or depraved nutrition. In delicate children, and those especially of a scrofulous diathesis. the joint action of one or more of these complications, eventually proves fatal, long after the legitimate lesions of cholera infantum have disappeared. They, therefore, are entitled to distinct consideration in a monograph upon the disease, without which it is incomplete.

Finally, those who desire to keep themselves thoroughly advised upon matters pertaining to cholera infantum, will do well to read this Essay, if an opportunity chances to offer. It is a fair contribution to the subject of which it treats, but I do not think that the author is entitled to the highest praise for elegance of style or perspicuity of expression.

Case of Strangulated Hernia : presenting some Peculiarities of interest. By EDWARD H. PARKER, M.D. Late Professor of Anatomy in the New York Medical College, &c., &c.

On Sunday, the 7th day of November, 1852, during my residence at Concord, N. H., I received a message from my friend, Dr. E. K. Webster, of Boscawon, desiring me to join him immediately, and with the instruments necessary for operating for strangulated hernia. It was about eleven miles to the house of the patient, and although I made all possible haste it was nearly three o'clock in the afternoon before I saw him. Beside Dr. Webster, Dr. Brown of the same town was present, and Mr. now Dr. Call, at present assistant physician in the New Hampshire Asylum for the Insane. The few hours of daylight which remained admitted of no delay, and I at once proceeded to examine the patient. Dr. Webster's diagnosis was found to be correct, and he gave me these particulars :

Mr. Jacob Gerrish is a man of seventy-three years of age, a

farmer in comfortable circumstances, usually enjoying perfect health. For a few years he has been troubled with an indirect inguinal hernia upon the left side, which he has kept back by the aid of a truss. This instrument, however, has not been sufficient to keep it entirely in place, and frequently when he is ploughing or doing other hard work the bowel escapes in spite of it. Yesterday (Saturday) he was at work and felt the bowel come down and replaced it as usual, continuing at his work. During the night, however, he felt some uneasiness about the inguinal region, and although he noticed the tumor in his groin, thought little of it. This morning the tumor still remained and was painful, resisting his own attempts at reduction, and knowing the dangers of strangulated hernia, he at once sent for Dr. Webster. That gentleman tried to reduce the hernia several times by taxis, and although his efforts were made with the greatest skill and while the patient was under the influence of chloroform, they made no impression upon the tumor. He therefore sent at once for me to operate.

I found the tumor to be as above stated, an indirect inguinal hernia upon the left side, protruding about half an inch from the external abdominal ring. Placing the patient in the proper position for taxis, I made some efforts to reduce the hernia, but finding that they were ineffectual, and knowing Dr. Webster's skill to be such, that after his failure it was not probable that any one else would be successful, I abandoned the attempt. There was already considerable heat and tenderness in the tumor. Only two hours of daylight remained, and I therefore decided to operate at once. Dr. Brown, however, stated that he had seen hernia successfully reduced without operation, when taxis had failed, by administering tobacco enema, which seemed by its excessive relaxation of the whole system to relieve the stricture and to allow the intestine to return to the cavity of the abdomen. I had no confidence in this method, but deemed it proper to state to the patient not only my opinion but that of Dr. Brown. It happened that Mr. Gerrish's wife had died after an operation, by another surgeon, for the relief of strangulated umbilical hernia, while a near neighbor had also died, after an operation by still a third surgeon, for the relief of the strangulation of an inguinal hernia. Under these cir-

cumstances he naturally enough wished to try every other means before submitting to an operation. I frankly stated to him that I had no confidence in the effect of the enema; that it would be very prostrating, and that if it failed it might be that before he had recovered from its effects, the strangulation would cause gangrene of some portion of the intestine. Still the proposer of the injection urged it so strenuously, that the patient thought he would like to have it tried, and it seemed on the whole, best to yield to his wishes, although I was convinced that it would compel me to operate during the night.

The injection was accordingly prepared and administered, producing extreme prostration, although the patient had long been in the habit of chewing tobacco freely. When the prostration was complete, careful but sufficient efforts were again made to reduce the hernia by taxis, but though carried to the greatest extent which the patient's condition allowed, and quite as far as I thought safe, the tumor still remained unreduced. The proper measures were taken to restore the patient, and every arrangement was made for operating.

It was nine o'clock in the evening, before the effects of the tobacco had sufficiently passed off to justify me in proceeding. Any one who has been compelled to perform a grave operation with no other light than that given by tallow candles, can appreciate my difficulties. Still the patient's life depended upon an immediate operation. and I proceeded without hesitation. Dr. Webster kindly consented to administer the chloroform, and knowing him to be skilful and attentive, I gave myself no farther anxiety about the use of the anæsthetic. The other gentleman assisted me in the operation whenever it was necessary. The first incision was made by pinching up a fold of the skin and piercing it with a bistoury at its base and then cutting outward. The danger of penetrating the tumor itself, which has been described by some writers, I am sure does not exist, and how any one can suppose it to, passes my comprehension. The *skin* is to be raised in a fold, and it is perfectly easy to feel through the thin skin of this region, whether or not anything else intervenes. The surface of the tumor itself is, moreover, made smooth and tense by the crowding of its cavity with the

very contents which cause it to become strangulated. After dividing the skin, the layers beneath were raised in the usual manner upon a director and divided. When the sac was reached, I found that the intestine though dark, had not lost its vitality, and therefore after dividing the cutting borders which pressed upon it both at the external and internal ring, the strangulation being at the latter, I attempted to return the intestine to the cavity of the abdomen, but found it to be impracticable. Repeating my examination, I satisfied myself that the cause of strangulation was entirely removed, the improving color of the intestine giving evidence of the same thing. I then took hold of the intestine, and on attempting to examine the surface, to be sure that there was no spot of sphacelus, I found it adherent to the outer side of the inguinal canal by firm, false membranes, evidently of no recent origin. Attempting, with as much force as I deemed justifiable, to tear off the intestine from the sac, I found it to be impossible, the intestine, the sac, and the walls of the canal being closely consolidated. There remained only to dissect the intestine from the sac, and this, in itself a delicate operation, was rendered doubly difficult from the dimness of the light with which I was compelled to work. Having satisfied myself at length, that the bowel was set free, and having previously shown the unusual complication to the medical gentlemen who were present, I requested them also to examine and satisfy themselves of my success. Dr. Brown, who was nearest to me, proceeded to do so, but raising the loop of intestine and seeing that it was entirely clear, he was about to lay it down again when it slipped back into the abdomen. The wound was at once closed by sutures and adhesive plaster, and a wet compress placed over it, the patient carefully replaced in bed, and made comfortable. The chloroform had been continued throughout the operation, but was administered so skilfully, that no unpleasant effects resulted from it, and this, although the patient was under its influence for nearly two hours.

The simple operation for the relief of the strangulation was speedily accomplished, but after the complication was discovered, I proceeded very slowly, preferring as I always do, that *slow haste* which secures the safety of the patient, rather than

that brilliant rapidity which is supposed to be so creditable to the surgeon. The adherent surface of the intestine was about an inch in length and at the widest part half an inch in breadth, extending nearly up to the internal ring. Throughout this extent the intestine, the sac, and the tissues, constituting the outer wall of the canal, were consolidated so that it was difficult to distinguish between them, and while the greatest danger to be apprehended was of cutting into the intestine, I wished, on the other hand, to leave its surface as free as possible from adventitious membrane. This I successfully accomplished by sometimes dissecting between the two when drawn apart by my assistants, and sometimes by placing my finger beneath the edge of the union and carefully cutting down upon it.

Finding that the patient was very comfortable, with a good pulse, and in excellent spirits, I left him about midnight under Dr. Webster's care and went home. The next day (Monday) I received a note, assuring me of the promising condition of our patient. On Tuesday, I visited him again, and found him in a very satisfactory condition, and from this time his recovery was constant and rapid, the greater part of the wound uniting by immediate union.

The interesting feature of this case is the adhesion, of which I have spoken,—an unusual complication, and one tending to embarrass the operator as well as to delay the return of the intestine to the abdominal cavity. The situation of the adhesion as respects the inguinal canal, I have pointed out, and stated that the intestine, the sac, and the walls of the canal were firmly consolidated. How this could have occurred, was a great puzzle to me, which I could not satisfactorily answer, until my second visit to the patient. I then questioned him as to his mode of wearing his truss, and found that he had not always been particular to put the bowel all back before he allowed the pad of the truss to press on the ring. He did not think that, for some months previous to the strangulation, the tumor had been entirely reduced. The truss had not caused him very great pain, though sometimes it was rather uncomfortable. The pressure of the truss pad directly upon the tumor, had probably at some time, (and from the degree of or-

ganization it must have been at least twelve months previous to the operation,) caused sufficient inflammation and effusion of lymph upon the serous surfaces to fasten them together, and the repetition of the same influence would tend still further to increase the adhesion. It is probable that a great part of the pressure of the truss came below the external abdominal ring, so that its full power was not exerted directly and constantly upon the intestine. I have had very frequent occasion to apply trusses to the inguinal region, and have found that patients almost always have the idea that the opening through which the hernia escapes must be below the bone, and they are very careful to have the pad low down instead of over the internal ring. It is also noticeable that from the mode of the adhesion, it being upon the outer side of the intestine and nowhere involving more than half of its circumference, the calibre of that portion of the canal would not be at all diminished and its functions not interfered with. It is not very uncommon to find the intestine fastened by a greater or less patch of adhesion to the abdominal wall, so that in this view of the case, there is nothing very remarkable. The internal ring was of sufficient size to allow the intestine to return within the abdomen to such an extent that its contents could readily pass along the canal. Hence the strangulation did not occur at once, as would have necessarily been the case if the whole calibre of the intestine had been detained in the sac.

Had the patient been a young man prone to inflammations, there can be no doubt that the peritonitis would have extended and perhaps brought life in danger. So too, had he been young, at the time of the operation, his peril from the same cause would have been far greater. His rapid and perfect recovery from the operation was doubtless due to his healthy condition, the happy result of an active, temperate, and contented life.

279 Fourth Avenue.

Upon the Formation and Sources of Atmospheric Ozone. By M. H. SCOUTETTEN, Physician-in-chief to the Military Hospital of Metz.

[Atmospheric Ozone, since its discovery, has been chiefly investigated in its chemical relations. Recently, however, some observers have extended their observations, supposing that they had discovered in it, the mystery which envelops the rise and progress of epidemics, and many experiments have been made to ascertain this hidden influence, in order to illustrate the law of epidemics. In our own country but few observations upon this body have as yet been instituted. At the recent sittings of the Association for the Advancement of Science, Prof. W. B. Rogers read a paper entitled, "Remarks on Ozone Observations," which elicited an exchange of opinion. Nothing very conclusive in relation to this body was however furnished by either the paper, or the discussion following it. We take the following brief abstract of the paper from the report of the *Tribune*, of August 26th:—"Many years ago, Schönbein discovered an agent of great energy in the atmosphere, which from its disagreeable smell he called Ozone. It has been considered as a peroxide of hydrogen, and also as an allotropic form of oxygen. From experiments made at Boston, Professor Rogers found that westerly winds contained most Ozone, but in subsequent observations made on an island hill he ascertained that winds from all directions gave similar amounts of Ozone, while calms from bringing less air on the ozonoscopic paper, gave small amounts. In reply to a question of Dr. Glück's, Professor Rogers stated that he had not been able to discover any effect from light and heat. He thought that in cities Ozone was neutralized by organic matters in the air. Prof. Horsford thought there was at least two atmospheric agents, both called Ozone. He was of the opinion that there may be many agents in the atmosphere that may effect Ozonic observations, or even give indications of Ozone. A member from Portsmouth, Va., as the result of his observations, stated, that last Summer Ozone was deficient, and this Summer had been abundant with abundant thunder, and that the character of disease is entirely different there this year from the febrile

type of last year." Recent French journals bring us the reports of several papers read before the Academy of Sciences, on the Influence of Atmospheric Ozone upon the Sanitary Condition of a country. Mr. Wollf of Zurich, Switzerland, gave as the result of his observations during an epidemic dysentery at Berne, in 1855, that the severity of the epidemic increased and diminished with the quantity of Ozone; while M. Berigny, who has made several reports upon this subject, states that where Ozone is abundant there is less disease, and the reverse, that there is more disease where Ozone is proportionally less. Another important fact resulting from M. Berigny's observations is, that Ozone increases in quantity with altitude. He found more Ozone in the third story of a building subjected to his examination than in the first, and the ratio of sickness corresponding to the statement already made; there was more sickness in the first story than in the third.

We have been informed by a physician of this city, whose engagements carry him into tenant houses, where many families are collected under the same roof, that he finds more cases of disease in the third story than in the first, or even in the basements.

The value of the observations upon Ozone in a sanitary point of view are still doubtful. In the hope, however, that the investigation of this body may lead to some beneficial result, we have been induced to offer to our readers the translation of an interesting paper on the "Sources of Atmospheric Ozone," which illustrates some points as to the influence of light and heat upon its production, which was the subject of some discussion at the last meeting of the Association.

The test-paper generally used by experimenters upon Ozone is that introduced by Schönbein. As iodide of potassium has been found to be acted upon by Ozone, paper soaked in a solution of starch, containing 0.002 of its weight of this iodide was prepared by him, and called ozonometers or ozonometric reagents. This paper when altered by Ozone, is found tinged with various shades of brown, the intensity of which is measured by a scale of ten gradations. The brown tinge of the ozonometer is produced by the decomposition of the iodide of potassium—the oxygen of Ozone combining with the potas-

sium, and setting free the iodine which now forms the iodide of starch. In its dry state this new combination is of a brown color; but when moistened it assumes a blue tint, the intensity of which indicates the quantity of Ozone. J. H. D.]

Up to the present time, Ozone has been studied particularly in a chemical point of view, and many works of great value have resulted from it. Considered successively as a simple body, as a compound body composed of oxygen and hydrogen, as a nitrous acid, &c.; it is only since the splendid observations of MM. Marignac and de la Rive, Fremy and Ed. Becquerel, that the true character of this agent has been determined, and that Ozone has been proved to be oxygen electrified. Natural philosophers, meteorologists, physicians, have also been engaged with this body, but puzzled by its apparent anomalies, they have considered it as a capricious agent, the presence or absence of which did not merit more than a secondary notice. Ennui and discouragement promptly succeeded to a moment of enthusiasm, and perceiving neither object nor result, investigators generally abandoned their experiment.

Science was at this point, when suddenly the sources of Ozone were discovered. Drawn on by my observations, I pursued this body in all its manifestations; I saw it spring into existence, grow, and assume an importance, the boundaries of which cannot be defined.

Since then, Ozone appears to us no longer as a chemical agent only. It is the instrument which Providence makes use of for producing the grand phenomena of nature, by which can be explained the formation of aqueous meteors, the periodic and diverse oscillations of the barometer, the means of restitution to the atmosphere of oxygen destroyed by the respiration of animals, by natural oxydations, the combustion of fuel, and of great metallurgic manufactures.

The bond which unites all these acts is rendered evident by the discovery of the sources of Ozone, showing that this body is formed—

1. By the electrization of oxygen which escapes from water;
2. By the electrization of oxygen secreted by plants;
3. By the electrization of oxygen disengaged during chemical action;

4. By electrical phenomena reäcting upon the oxygen of the atmosphere.

The following are a series of experiments relating to these four orders of facts :—

1. Electrization of Oxygen which Escapes from Water.

Exp. 1.—April 26, 1856, a pail of river water was poured into a glazed earthern dish, elevated from the ground by three glass bottles, forming a tripod, so as to avoid the influence of the electricity of surrounding bodies.

A bell-glass, 40 centimetres high, holding six litres, was placed over this water. It had within and at its summit a small band of ozonoscopic paper, suspended by a thread which was attached by wax.

The temperature was +10° centigrade ; the sun shone brilliantly, but towards 10 A. M. clouds hid it until near 3 P. M. The experiment commenced at eight o'clock, and continued until the next day at the same hour. The paper was deeply colored, and marked No. 7 upon the ozonometric scale.

This remarkable result attracted our attention. The experiment was immediately repeated with spring water, river water, and rain water. Two glazed pans were placed directly upon the roof of a high house, a third was elevated on glass bottles. These three experiments commenced at eight A. M., passed through the same phases, and gave the same results.

The formation of ozone under the conditions indicated could no longer be doubted, but many inquiries remained to be solved.

Exp. 2.—At what hour is Ozone formed ? A new series of experiments, commencing at six and ending at six, demonstrated to us that under a temperature varying not more than 3° to 5° centigrade, no appreciable phenomena were manifested; but that from six to eight o'clock, and as the temperature became higher, water was evaporated, and was condensed in little drops upon the interior walls of the vase. The paper began to be colored about nine o'clock, first of a straw-color, then of a yellow chamois color ; at eleven, these phenomena were more intense; at noon they attained their maximum, but the paper continued to be colored until about three ; then the vapor of wa-

ter diminished. After that, little drops which covered the interior of the vase and ran down its walls were alone observed.

The order of these phenomena is constant, but they are produced with more or less rapidity and intensity, according to the elevation of the temperature and the brightness of the sunlight. We have seen the evaporation of water, and shortly after the coloration of the paper commence, about ten o'clock in the morning, and at other times as early as seven.

Spring water, river water, and rain water, therefore, contained in vessels placed upon the ground or raised above it by glass feet, constantly produce Ozone.

We immediately inquired then if the oxygen attending the formation of Ozone, came from the decomposition of a part of the water which passed off in vapor, or if it was furnished by the air contained in this liquid? To reply to this enquiry we made the following experiment:—

Exp. 3.—Six litres of distilled water were poured into a glazed earthern pan, and a bell-glass disposed as before mentioned, covered the liquid. At the end of the operation, the ozonoscopic paper presented a slight coloration, attaining No. 2 of the scale.

It was not long before we discovered some objections to the correctness of this experiment. Could not this distilled water, prepared many days before, have absorbed some air, or that portion of water which was not covered by the bell-glass, but which communicated with that within it, could it not have been the means by which some air taken from the atmosphere might have passed in? This inquiry was solved by the following experiment:—

Exp. 4.—Six litres of distilled water were boiled for an hour, in a glass vessel; then, all air being expelled, the liquid was poured slowly into the earthern pan, the bell-glass placed over it, and in order to prevent any contact with the exterior air, we poured upon the water surrounding the bell-glass, a thick layer of oil.

The experiment commenced at eight A. M., and continued until evening at the same hour. The sun shone brightly, the temperature was $+16^{\circ}$ at noon. The paper showed no alteration—remaining perfectly white.

It was therefore proved that the Ozone was not formed by the decomposition of water, but by the disengagement of oxygen dissolved in this liquid, and that the gas becomes electrified by the chemical reäction which takes place when water evaporates, and abandons the salts it holds in solution. If the water be pure, it furnishes neither oxygen nor free electricity.

This experiment also shows that the solar rays do not directly increase the oxydating properties of oxygen, that for that purpose a concurrent chemical reäction is necessary, without which they are powerless.

It became interesting to discover if ordinary water, from a spring or river, covered with a thick layer of oil, and thereby excluded from the air, would produce Ozone.

Exp. 5.—The experiment was performed April 28th, commencing at seven A. M., and continuing until seven P. M. For two hours there was no apparent phenomenon, but towards ten o'clock, the paper became rapidly colored. At noon, suddenly, bubbles of air were observed to raise up the oily liquid, then break, throwing the oil up two or three centimetres. This took place on the outside of the bell-glass; it was not observed within, which we account for by the pressure produced by the air within dilated by heat.

The ozonoscopic paper had acquired a deep tint. It marked No. 9 on the scale, an elevation of coloration which we believe due to a chemical action resulting from a slow combustion taking place, produced by the electrified oxygen passing through oil.

Exp. 6.—Salt water was also experimented upon. It did not give any stronger reäctions than spring water; it was even a little feebler than that produced by rain water, which, as is well known, contains a larger proportion of atmospheric air than any other water.

The results of these experiments appear to indicate so plainly the influence of light and heat upon the formation of Ozone, that we cannot omit to ascertain the correctness of it by direct observations.

Exp. 7.—Several glazed earthern pans containing spring and river water, were covered with bell-glasses arranged as we have already indicated. The experiment commenced at the

moment that the sun set, and was continued until seven the next morning. The ozonoscopic paper was found to be perfectly white. The same experiment, repeated several times, in different places and at different hours, gave invariably the same results.

Are light and heat indispensable conditions to the development of electricity, or were the facts observed, the result of the suspension of the chemical actions during the night? This inquiry deserved a solution by particular experimentation.

Exp. 8.—Water, recently taken from the river was placed in an earthen pan, and covered as before, with a bell-glass containing some ozonoscopic paper. Over this bell-glass we threw a thick towel, which prevented the solar rays from acting directly. The experiment commenced in the morning and was continued until quite into the evening. The paper remained perfectly white. The same experiment, repeated several times, always gave the same results, which showed that light exercises an important influence upon the production of Ozone.

It still remained to ascertain whether heat alone was sufficient to develop Ozone by favoring the evaporation of water and the chemical actions. The earthern dish prepared as before, was placed upon a furnace, and the temperature of the water raised to near the boiling point.

After waiting several hours, the paper was ascertained to be perfecty white. But this experiment is faulty, for chemistry teaches us that heat at 90° (Laissaigne, Journal de Chimie Médicale, t. ix., p. 510) discolors iodide of starch, and that the vapor of water dissolves iodide of potassium.

Besides, the experiments of M. Peltier demonstrate that the vapor of water does not produce free electricity below 110°.

We also tried to find out whether dry air, raised to a high temperature, gave any electricity capable of being detected by the test-paper. To attain this result, we placed a piece of sheet iron over a large spirit-lamp, and upon this iron a bottle with a large opening, and notwithstanding the duration of the experiment, the paper remained perfectly white.

The results given by these experiments cast a new light upon the production of atmospheric electricity, and upon the phenomena which accompany it; they reveal new laws to us which

were not even suspected; and by them we are able to understand obscure facts verified by observation, but which science could not explain.

2. Electrization of Oxygen Secreted by Plants.

The experiments of Priestley, of Ingen-Housz, repeated by a large number of observers, had proved that vegetables exhaled during the day, a gas which they declare to be oxygen. This fact appeared incontestible, and science had admitted it definitively.

Wishing myself to verify this phenomenon and to find out the conditions necessary to its manifestation, I made divers experiments, which caused me to suspect the electrical state of oxygen secreted by plants; I wished to convince myself of it.

Exp. 9.—April 27, 1856, a bell-glass containing an ozonoscopic paper, was placed over a bunch of clover. It was eight o'clock in the morning, and at ten the paper already showed a change which gave to it a yellow chamois color. At noon the coloration was still more observable, still increasing a little, and finally ceasing about 3 P. M. The paper taken from the glass, was dipped in a little water, and gave No. 6 of the ozonometric scale.

This result astonished me. It was not pure oxygen which the plants had secreted, as was admitted, but Ozone.

New experiments seemed to me necessary, in order that all the incidents accompanying this phenomenon might be carefully noted. Bell-glasses were placed over clover, fall wheat, wheat sown in February, over meadow-grass, and over a bunch of lilacs. All of these vegetables produced Ozone. The quantity given by each of them varied slightly; the clover gave less of it than the wheat, and especially less than the meadow-grass, which seemed to indicate that plants have a vital activity which corresponds to the period of their growth, and which, favoring the chemical actions of the life of the vegetable, contributes to the formation of Ozone.

In the experiment which we have just reported, the order of the phenomena was constant; first, an aqueous vapor was seen to appear under the glass, which soon became deposited in lit

tle drops upon the walls of the vase, then the paper became slightly colored. This coloration augmented in ratio with the decomposition of the iodide of potassium; it ceased about three or four o'clock in the afternoon; the vapors of water ceased in their turn, and the drops which ran down left the glass clear.

These experiments, repeated a great number of times, gave invariable results, and it was demonstrated effectually, that under the influence of solar light and heat, plants produced Ozone abundantly.

However satisfactory these experiments were, they yet were subject to some objections. Although the formation of Ozone was incontestable, yet was it really due to the action of vegetables? Could it not come from the earth, which also furnished electricity?

To this objection we may reply that the electricity of the soil is negative, and for that reason it could not produce Ozone. But this is an assertion and not a proof; a positive experiment is necessary, as follows :—

Exp. 10.—A branch of lilac, covered with leaves, was introduced into a retort with two tubes; the superior opening was closed by a cork, pierced by a hole, to let the extremity of the branch pass through. The retort was suspended to a beam and elevated three metres above the ground by means of a silk-cord. Every precaution was taken to avoid the action of the terrestrial electricity upon the apparatus. The experiment commenced at ten o'clock A. M., was already in operation at eleven. The paper was colored but slowly, and at six P. M., the reäction ending, we ascertained that the paper marked only No. 3 of the ozonometric scale; while the same experiment, repeated at the same time over plants attached to the ground, gave papers colored to Nos. 5 and even 6 of the scale.

By this experiment, it seems to us to be demonstrated, that the electricity is the result of chemical and vital actions taking place in the plant, since it cannot be attributed to the influence of terrestrial electricity conducted by the stem of the plant into the interior of the retort; and it should be remembered that the condition of the plant lessened the effects produced in the normal state.

The formation of Ozone by plants during the day, being an ascertained fact and quite incontestable, it still remained to be shown whether the same phenomenon was equally manifested at night.

Exp. 11.—Observations were repeated upon every point of experimentation for many consecutive nights. The bell-glasses replaced over those plants which had furnished Ozone during the day, and over others which had been constantly free to the air, remained from eight P. M. until six A. M. The papers were found uniformly white, having undergone no alteration. In order to prove that the papers had not lost their coloring quality, they were used during the day, and gave the habitual reactions.

These observations naturally recalled the effects produced upon plants by withdrawing them from the light of day.

Exp. 12.—Some vigorous plants, furnishing Ozone actively, were covered with some new glasses, surrounded by bands of paper and protected from the daylight by a piece of linen, and others by a sheet of paper ; the formation of Ozone was instantly arrested ; the paper remained white.

Exp. 13.—We did still more. Plants of different species were placed under a glass, and arranged in a room perfectly well aired and lighted, but removed from the direct action of the solar rays. The experiment lasted two days and a half, and the paper exhibited no change.

It is not unimportant to ascertain, how much in the formation of Ozone belongs to the vital act of the plant, in order to separate it from that which is attached to the evaporation of water which escapes abundantly from the leaves of vegetables.

This is so considerable, that it would hardly be believed, if positive experiments made by men of the highest merit had not demonstrated it.

Hales has proved that a cabbage transpired during twelve hours of the day 580 grammes of water, and M. Boussingault has calculated that a cabbage-field a hectare in size, the plants of which were 50 centimetres apart, can give off in twelve hours 20,000 kilogrammes of vapor, equal to twenty cubic metres of water. (Economie rurale, etc., t. I, p. 29.) Let us also add, that leaves, multiplying surfaces, increase in considerable proportion the production of Ozone.

M. Boussingault has carefully measured the surface of the leaves and stalks of the sun-flower, of wheat, of the potato, and of the red beet, and carrying his calculations to a hectare of ground, has given the following results :—

Sunflower, surface of leaves in square metres :—		
September,	136,000	
Surface of stalks (2 to 3 metres high,)	6,410—	—142,410
Wheat in flower. 195 plants by sq. metre ; the parts of a plant, stalk and leaf, 1 metre, 82 decimetre sq.		35,400
Potato in flower, plants 6 decimetre apart :		
Surface of leaves,	366,10	
Surface of green stalks,	30,31—	—396,41
Beet, in a very rich ground :		
October 1st, (plants 6 decimetres apart,)		49,921

This enormous evaporation is an abundant source of Ozone : it astonishes the imagination ; but how can we separate that part which is owing to the vital action of the plant. The following experiment answers that question :

Exp. 14.—Two glasses of the same form, each containing a demi-litre, were filled with river water, reversed upon a large porcelain plate, and placed beside each other. In one of these glasses we had placed eight leaves of trees, lilacs and poplar ; in the other there was water only. The experiment commenced at 8 A. M. The sun shone brightly, the temperature was 10° centigrade.

At ten, the leaves, especially those of the poplar, were covered, principally upon their inferior surface, with small pearly bubbles, which gradually becoming detached, rose to the top of the vase. At noon, a large bubble remained ; at six in the evening, it completely separated the water from the glass.

The second vase, which contained water only, exhibited some very fine bubbles clinging to the sides of the glass, and which at the close of the day, hardly formed two bubbles of the proportion of a medium-sized lentil.

This experiment shows that the vital action of plants plays an important part in the evaporation of water, and in the formation of Ozone, and that, for the latter, it is necessary to attribute the greater part to vegetables.

It is then perfectly well established in science, that plants do

not furnish to the atmosphere pure oxygen, as has been supposed, but that they produce Ozone under the influence of direct sunlight ; that they cease to exhale it during the night, in artificial obscurity and even when they are in the diffused light of a room.

The formation of Ozone by water and by plants during the day, is a great act of nature, the existence of which was not suspected, and which we shall soon see exercises a highly important influence upon animals, plants, and upon the production of the electrical phenomena of the atmosphere.

It still remains for us to prove what effects are produced by the earth entirely deprived of vegetation. These effects are various, according to the precautions taken. If the experiments are limited to placing upon the ground a globe furnished with the ozonoscopic paper, it will not be long before vapor of water will be seen to rise under the influence of sunlight, whatever may be the apparent state of dryness of the earth, and become condensed in the form of little drops against the sides of the vessel. In such a case the paper shows a rapid reaction, evidently due to the evaporation of water.

If, on the contrary, the earth be slowly dried, so that it be entirely deprived of water, no reaction will take place, and the paper will remain white.

This experiment gives us many important facts, serving to explain the introduction of gas into the soil. In fact, heated water, by evaporating, makes a vacuum, the gases in contact with the surface of the earth penetrate into the molecules of the soil, and enter with an activity proportional to the intensity of the heat and sunlight. These gases, especially the carbonic acid, become dissolved in the water they meet, which is absorbed by the radicules of plants with a power equal to the evaporation taking place by the leaves. Thus it is, that this movement of rotation favors the accomplishment of the nutritive, calorific, and secretory functions of vegetables, an admirable order of facts, which will attract our attention hereafter, when we speak of Ozone in its relations to vegetable physiology.

3. ELECTRIZATION OF OXYGEN DISENGAGED DURING CHEMICAL ACTIONS.

It is easy to show, that in all the chemical combinations with disengagement of oxygen, Ozone is produced. In fact, in every chemical action electricity plays an important part: it appears to constitute the law of affinities. It can be understood then, that under these conditions, oxygen, which always passes to the negative pole being subjected to the influence of electricity, instantly assumes the properties belonging to Ozone.

The characteristics of oxygen in the free state, are given by all authors. It is, they say, colorless, invisible, without odor, gasiform under every ordinary atmospheric pressure, and in the dry state does not act upon metals, and particularly upon potassium, even when moist.

Ozone, on the contrary, has a very apparent odor; it reacts upon metals in the ordinary state, and oxydizes them immediately.

Chemists not being able to explain the phenomena produced by oxygen in chemical reactions, have admitted that latent oxygen possesses properties which free oxygen has not; they have not extended their investigations further, being satisfied with that supposition.

M. Houzeau, not satisfied, tried to obtain latent oxygen in order to ascertain its precise characteristics, by making monohydrated sulphuric acid react at a low temperature upon the binoxide of barium. He succeeded; but what did he obtain? A gas, the characteristics of which are identically those of Ozone.

The following experiment shows the formation of Ozone in chemical actions.

If a solution of the iodide of potassium in distilled water be poured into a test tube, and a small quantity of the starch and acetic acid be added, the mixture remains colorless, but the moment a few particles of the peroxyde of manganese is let fall into the liquid, it turns blue, and reveals the formation of the iodide of starch. What takes place during this chemical reaction? The iodide of potassium, the starch, and the acetic acid remained in presence of each other without producing any combination, but the peroxide of manganese had hardly

been introduced, before the acetic acid reacting upon it, caused it to pass into an acetate, releasing an atom of oxygen which became electrified, seized upon the hydrated iodide of potassium, set the iodine free, and this body combining with the starch, formed an iodide which revealed its presence by coloring the liquid blue; a series of phenomena which would not take place, if the oxygen did not pass into the state of Ozone. To be convinced of this, it is only necessary to obtain oxygen by one of the known processes, and pass it through a porcelain tube heated to about 200°, so as to destroy the foreign elements with which it may be united, and then make this gas pass through the mixture mentioned above, it will then be found that this oxygen has no action upon the iodide of potassium, and consequently that it does not favor the formation of iodide of starch.

All the acids, except sulphuric acid, may be employed in repeating this experiment. This last possesses, in fact, a strength sufficient to decompose the hydrated iodide of potassium, and to set the iodine free.

The properties of Ozone explain a number of slow combustions which take place in the open air; they account for the spontaneous passage of many sulphurates into sulphates, for the formation of ozotic acid in the atmospheric air, for the nitrification taking place upon the earth's surface—phenomena which were enveloped in the most profound obscurity, even to the eyes of the most scientific (Boussingault, Economie rurale, etc., t. I, p. 675). Finally, they make the following fact, so remarkable by its apparent singularity, easily understood. If a thin plate of gold or copper be dipped into ordinary ozotic acid, these metals are immediately attacked, and rapidly destroyed; but if the acid be concentrated, if it be anhydrous, it loses its power, and remains inactive. Is it not evident, in this last case, that oxygen is wanting, which becomes electrified, to oxydize the metal, and cause its solution.

If, now, we refer this explanation to a large number of obscure chemical phenomena, we shall see that they will be rendered clear by an unexpected light, and that the electrochemical theory receives a confirmation which shows its exactitude and value.

4. ELECTRICITY REACTING UPON THE OXYGEN OF THE ATMOSPHERIC AIR.

We have already shown that atmospheric air, subjected to a continuous and invisible current of electricity, or to a succession of sparks, gives Ozone. But in what region of the atmosphere is this phenomenon produced? Everything tends to convince us that it takes place in elevated regions. There the clouds charged with electricity, establish perpetual currents which act upon the oxygen and give to it the properties of Ozone. This fact is placed beyond doubt during storms, under the influence of lightning, and especially when it strikes. The air is then impregnated with the characteristic odor of Ozone, so often observed in places struck by lightning. Then, also, the ozonoscopic paper furnishes positive indications, it becomes very blue, and gives reactions which frequently attain the maximum of the ozonoscopic scale.

Ozone thus produced does not manifest itself immediately upon the surface of the soil. It is necessary that the superior layers of the atmosphere cooled by the winds and rain, should have time to descend towards the earth, and bring there the oxygen electrified in the high regions. It is on this account that most frequently it is not till two or three days after a storm, that the ozonic reactions are the most active.

From this collection of facts it follows: that nature possesses abundant sources of Ozone; that they exist upon the surface of the globe, and in the elevated regions of the atmosphere; that it establishes perpetually ascending and descending currents of air, exercising a powerful influence upon the production of the grand electrical phenomena, and upon the cts of vegetable and animal life.

The discovery of the sources of Ozone is, then, an event which casts a new light upon the physiology of animals and vegetables, upon the atomic combinations of bodies, and shows that a tie, until now unseen, unites by slight relations, all the the bodies of our globe.—*Gazette Hebdomadaire.*

REVIEWS AND BIBLIOGRAPHY.

"Nullius addictus jurare in verba magistri."

The Obstetric Memoirs and Contributions of JAMES Y. SIMPSON, M.D., Professor of Midwifery in the University of Edinburgh, etc., etc. Edited by W. O. PRIESTLY, M.D., Edinburgh, and HORATIO R. STORER, M.D., Boston, U. S. Volume II., pp. 819. Edinburgh.

A few months since, we called the attention of our readers to the first volume of this most valuable work, republished in beautiful style by J. B. Lippincott & Co., Philadelphia. We have not seen the American republication of the second volume, but we hope that it will soon find its place in the library of every medical man, who wishes to keep himself informed of the progress of Obstetrical Science. It is full of most valuable papers, which no man can read or reperuse (for most of them have before appeared in the Medical Journals) without adding something to his stock of knowledge. These two volumes constitute a stupendous monument to the genius, talent, and industry of the author. We cannot *review* this volume, for the subjects contained in it are too numerous to admit of a consecutive review. In the first volume we have, Part i., Special Pathology of the unimpregnated female. Part ii., Physiology and Pathology of Pregnancy. Part iii., Natural and Morbid Parturition. In the second volume—Part iv. Pathology of the Puerperal State. Part v., Physiology and Pathology of the Products of Conception. Part vi., Pathology of Infancy and Childhood. Part vii., Anæsthesia. We propose to select a few of the more important practical papers for analysis.

1. *Analogy between Puerperal and Surgical Fevers.* According to the reports of the Registrar General, nearly 3000 mothers die in child-bed every year in England and in Wales, and Prof. Simpson believes a great majority of these maternal deaths is produced by puerperal fever.

In the city of New York, the records of the city inspector show that since 1850, the annual number of deaths from this cause, in this city, is about 150. The disease is more common and more severe among the population of towns than among the

population of the country. In the paper of Prof. Simpson, he points out the analogy between puerperal fever and the fever following surgical operations. 1. In the anatomical conditions and constitutional peculiarities of those who are the subjects of them. In the surgical patient, we have a wound or solution of continuity on the external part of the body, made by the knife of the surgeon; this wound has, opening upon its free surface, the mouths of numerous arteries and veins, and it comes to be repaired either by the direct adhesion of its opposed surfaces, or more slowly by exudation of organizable lymph upon its surface and the ultimate formation or development of a new skin, or new enveloping or connecting tissue. In the puerperal patient we have a wound or solution of continuity on the whole internal surface of the womb made by the separation of the placenta and the exfoliation of the decidua or superficial layer of the mucous membrane of the fundus and the body of uterus; this wound has, opening upon its free surface at the former site of the placenta, the mouths of numerous arteries and veins, and it comes to be repaired under the usual accompanying exudation of organizable lymph upon its surface and by the ultimate formation or development of a new layer or coating of mucous membrane. Both the obstetrical patient and the subjects of surgical operations are liable to present the symptoms of shock or collapse, particularly if the labor or the operation have been severe; both have generally a subsequent limited degree of febrile reaction—the traumatic fever of the surgeon,—the so-called milk fever of the obstetrician; and both the external surgical wound, and the internal obstetrical wound, are liable to deviate from the standard mode of reparation; for their secretions may alter morbidly, or they may become the seat of an excess of inflammation, or of ulceration, or of phlebitic suppuration and its consequences.

2. *Analogy in the Pathological Nature of Puerperal and Surgical Fever.* Prof. Simpson does not regard puerperal fever either as an idiopathic or putrid fever, or as essentially a local inflammation of the peritoneum, the uterus, the veins, &c., but rather as due to toxæmia or a morbid state of the circulating fluid. The direct injection of pus and other morbid secretions and matters into the blood of the lower animals by Gaspard,

Cruveilhier, Castelnan, and others, have produced a series of symptoms during life, and a series of lesions on the dead body, showing a very strong analogy to those of puerperal fever. Under this pathological view, the fever is not regarded as the cause of the attendant inflammations, nor the inflammations themselves as the cause of the attendant fever, but both are the simultaneous sequences or effects of one common cause, namely, the original vitiated or diseased condition of the circulating fluid.

3. *Analogy in the Internal Pathological Lesions left by Puerperal and Surgical Fever.* From a table showing the inflammatory lesions in the post mortem examinations of 134 surgical patients (by Chevers), and from the tables of Dugès and Tounelle, the former showing the inflammatory lesions in 341, and the latter in 222 cases of puerperal fever. Prof. Simpson deduces the following conclusions: 1. Both diseases generally leave upon the dead body ample evidence of the occurrence before death of acute and often extensive internal inflammatory action. 2. The internal inflammatory lesions are seldom limited in the same case to one organ or texture only, but two or more different viscera or surfaces are usually observed to have been either the simultaneous or successive seats of inflammatory action, and the different parts thus attacked are sometimes very distant and distinct from each other. 3. The internal viscera or textures, which are the first and principal seats of inflammation, are often far removed from the original wound or lesion, particularly in those cases in which the wound or lesion is in the head or the extremities.

4. *Analogy in the Symptoms of Puerperal and Surgical Fever.* In both diseases the most striking symptoms are rigors, a rapid and altered and frequently darker or almost icteric hue of the surface,—the skin sometimes hot and dry, sometimes bathed in perspiration, or these states alternating, without any material crisis in the febrile action; local pains and functional derangements in the parts which are the seat of the internal inflammatory effusions, but the local symptoms of these local inflammations are often masked and latent; anxiety and general prostration and adynamia; very frequently nausea and vomiting; occasionally diarrhœa, and latterly labored and hurried re-

spiration; sometimes sudden swellings and effusions in the joints and subcutaneous tissue, &c., and often at last rapid sinking, with or without delirium. Dr. Simpson is a full believer in the communicability of puerperal fever. He regards the material which, carried from one subject to another, is capable of producing puerperal or surgical fever in a newly inoculable subject, as an *inflammatory secretion*, not necessarily putrid. He uses, for the purpose of ridding the fingers of this morbific matter, a solution of the cyanide of potassiun, which he considers more effective than the solution of chloride of lime. But it is very doubtful whether the cyanide of potassium is in any sense a disinfectant, it acting merely as a solvent or caustic, while chlorine is a most efficient disinfectant from its great affinity for hydrogen.

Our limits will not permit an analysis of the interesting paper on *Puerperal Arterial Obstruction and Inflammation.*

Tetanus following Lesions of the Uterus, Abortion, and Parturition. This fearful complication is fortunately a rare occurrence in midwifery practice. But Prof. Simpson *details one case following the removal of a polypus from the unimpregnated uterus*, seven cases following abortion, and twenty-six after parturition. Of these twenty-six cases, twenty-one died and five recovered. He suggests for the treatment of obstetrical tetanus the following constitutional means:—

1st. "The greatest possible quietude and isolation of the patient from all irritation, corporeal or mental, during the course and for some time even after the resolution of the disease.

2d. The special avoidance of painful and generally impracticable attempts at opening the mouth in order to swallow, but sustaining the strength of the patient, and allaying thirst by enemata, or by fluids applied to the general surface of the body.

3d. If there is any well grounded hope of irritating matters lodged in the bowels, acting as an exciting or aggravating cause, to sweep out the intestinal canal at the commencement of the disease with an appropriate enema.

4th. To relax the tonic spasms of the affected muscles and diminish the exalted reflex excitability of the spinal system by sedatives or anti-spasmodics ; with the prospect of either di-

rectly subduing this morbid reflex excitability, or of warding off the immediate dangers of the disease and allowing the case to pass on, from an acute and dangerous attack, to a subacute and far more hopeful and tractable form of the malady."

To fulfil this last indication, no agent has proved so successful as chloroform, which acts as a direct sedative upon the reflex nervous system and upon exalted muscular contractility. If used in tetanus, its action will require to be sustained for many hours, or oftener perhaps for many days. Prof. Simpson suggests that perhaps some of the failures have arisen from the patient not being kept sufficiently deeply, or sufficiently continuously under the action of the drug. He mentions "a case of convulsions of the most severe and apparently hopeless kind in an infant of six weeks. The disease at once yielded and ultimately altogether disappeared under the action of chloroform, which required to be used *almost continuously for thirteen days;* as much as 100 ounces of the drug being used during the period. After all tendency to convulsions ceased, the little patient rapidly grew, and is at the present moment a very strong, healthy child."

The paper on the "Attitude and Positions, Natural and Preternatural, of the Fœtus in Utero," is very important and interesting, but we must content our readers with a mere reference to it, as it will be impossible to give an abstract of it.

The paper on Congestion and Inflammation of the Placenta, was first published in the Edinburgh *Medical and Surgical Journal*, in 1836. It is by far the most complete essay that has yet been written on the subject. We have copious notes of lectures, by Dubois, delivered at the Hospital Clinique, in 1845, and do not perceive, on comparing these notes with the essay of Prof. Simpson, any advance in elucidating the subject beyond the latter. Prof. Simpson concurs with Prof. Dugès in the opinion that the most frequent cause of abortion is active *placental congestion*, in which he includes placental hæmorrhage.

He divides *placentitis*, or inflammation of the placenta, into three stages, the first including the stage of inflammatory congestion and effusion or secretion of serous fluid; the second, that of the effusion or secretion of fibrin or coagulable lymph; and the third, that of the secretion or effusion of purulent matter.

The symptoms of placentitis are varied, according to its acute or chronic character, by the extent and seat of the inflammatory action, and particularly by its happening to be complicated or not, with inflammation of the contiguous portion of the parietes of the uterus. Pain in the uterine and lumbar regions is observed in almost all cases of placentitis, but it is not pathognomonic of this disease, as it is present in pregnancy as an effect of other pathological states of the uterus or its contents, than placental inflammation.

The other symptoms mentioned are, obstinate vomiting, shivering with febrile symptoms, and where suppurative inflammation of the placenta has existed, a kind of continued hectic febrile movement, with an exacerbation in the evening, preceded or not by shivering. Morbid adherence between the placenta and uterus, the result of adhesive inflammation between their contiguous surfaces, is almost uniformly marked, at the time of delivery, by more or less profuse and sudden flow or gush of blood attending upon each recurrence of uterine pain or contraction after the birth of the child, and even sometimes also during the act of its expulsion. It is not unfrequently attended with great danger to the mother at the time of delivery, or subsequently to that event, from the extreme hæmorrhage to which it sometimes gives rise, from its leading under unskilful management to inversion of the uterus, or afterwards from its retention producing, as it so frequently does, a very fatal form of irritative fever. It also occasionally proves fatal to the fœtus in utero.

In another article, Prof. Simpson enumerates as the principal pathological states of the placenta that are liable to produce the successive deaths of a series of premature children in the same mother, *Congestions and Extravasations of blood into the structure of the placenta, Inflammation of the placenta, Gangrene of portions of the placenta, General Œdema or dropsy of the placenta, Stearoid or fatty degeneration, and Hypertrophy.* The diagnosis of the pathological cause of the death of the fœtus, in successive pregnancies, can only be made out, with any precision, by having an opportunity of examining the body of one of the fœtuses and its placenta. As to treatment, Prof. Simpson believes, that mercury is only useful in those cases of suc-

cessive premature labors, where the child perishes of peritonitis. Where the child dies in consequence of disease, not of its own structures, but in the structure and economy of the placenta, he suggests that efforts be made to supply the functions which the placenta performs in the fœtal economy, viz: nutrition and respiration. He endeavors to render the maternal blood as highly an oxygenating medium as possible by keeping the patients constantly on small doses of alkaline salts. He evidently prefers for this purpose the chlorate of potass, in doses of from ten to thirty grains, taken repeatedly during the day in solution, and upon an empty stomach. Where children of the same mother, have died successively from the effects of different diseased states of the placenta, he believes that the induction of premature labor about the seventh or eighth month ought to be a principle of treatment prominently held in view and frequently had recourse to. In three cases of diseased placenta, he induced premature labor successfully in two, as regards both mother and child, one of the patients having previously lost six and the other three children.

We have no room for extracts from Part vi., on the Pathology of Infancy and Childhood. Part vii., on Anæsthesia, has already been republished in this country, by Lindsay & Blakiston, Philadelphia, with the exception of a few papers on local anæsthesia. The paper on Carbonic Acid Gas as a local anæsthetic in Uterine Disease, which was addressed to the New York Academy of Medicine, *but which has not been published by them*, will appear in full in the next number of this Journal.

In conclusion, we can only add, that we regard these two volumes of Prof. Simpson as by far the most important contributions which have been made to obstetrical medicines for the last quarter of a century. We are pleased that an American, every way worthy of confidence, was honored by the association of his name with the works. B. F. B.

PROCEEDINGS OF SOCIETIES.

NEW YORK MEDICO-CHIRURGICAL SOCIETY.

Reported for the Monthly by J. O. Bronson, M.D., Secretary.

Aug. 12. *Dr. Casseday* presented some morbid specimens.

First, a specimen of caries and necrosis of the tibia, removed by amputation from a boy twelve years of age, exhibiting the disease in an interesting manner. The boy was a native of Germany. Two years ago he jumped from the back of a horse, and though not receiving any injury, apparently, at the time, about a year after suffered pain in his leg, which swelled, and finally an abscess having formed and opened, became very troublesome ; sequestra of bone from time to time found egress, the disease evidently extending. In this condition he was received into the hospital, July 19th. Following the indications, amputation was performed on the fourth day subsequent. An anodyne was given, and energetic tonic treatment prescribed. The undue use of tartaric acid water induced a diarrhœa, which, however, was controlled by opiates. On the 4th instant, the quinine which had been used was stopped, the boy having become strong and healthy. The stump at the present time is very nearly healed, and presents a very fine appearance.

A sacrum, two or three lumbar vertebræ, and a clavicle in a carious condition, without a history, were also presented by *Dr. Casseday*, in connection and comparison with the first specimen.

Dr. Casseday then presented a portion of the internal branch of the radial nerve about one inch and a half in length, exhibiting, in a marked degree, an inflammatory condition. The nerve was enlarged and much injected, especially in its middle portion. The woman from whom it was removed, by accident cut her hand near the phalangeo-metacarpal articulation of the index finger, which, though readily healing, gave her severe pain afterward. Indeed, the neuralgia was so extreme that she lost her rest and sleep. After a time the nerve was divided near the cicatrix, by some physician to whom she applied, which did not relieve her but temporarily. The pain returned, and after suffering it for another period, she applied to *Dr. Carnochan*, who, guided by the pathology demonstrated in the case of neuralgia wherein he removed a portion of the infra-orbital nerve, exsected the portion of nerve, the specimen presented. The woman was at once, and remains, entirely relieved.

Dr. Casseday also presented a toe-nail, removed from a lady who had suffered, for three years, the pain resulting from its inversion. The various means used in such cases had been tried by her without success. The specimen demonstrated, by the extensive matrix, the reason why no remedy but the knife had been of benefit.

Dr. Casseday reported the recovery of the man who had suffered a fracture of the skull, with loss of osseous tissue, whose case was presented to the Society by *Dr. Carnochan*, July 8th.

Dr. Parker presented several portions of the intestinal canal of a victim to cholera infantum, with the following history, furnished by *Dr. Lee*:—

Alice Lewis, one year old, a light mulatto, of somewhat strumous appearance, but enjoying, save a slight tendency to diarrhœa, the usual degree of health, was attacked on the 6th of August with a decided diarrhœa, the discharges being green and thin. Chalk mixture with a little paregoric was prescribed, but the day following no amelioration of the symptoms had taken place. The character of the discharges became somewhat more mucous and yellowish in color. There was some tenderness over the abdomen, and watchfulness. The julep was continued, and a weak sinapism, followed by fomentations applied to the abdomen. Up to this time I had considered it a simple case of diarrhœa. On the following morning, however, the child's appearance was materially altered; and its pallid and shrunken, pinched features; its bright, restless eye; the uneasy to-and-fro motion of the head, and extreme irritability of the stomach, accompanied by an increase in the already profuse evacuations; all proclaimed it to be suffering under that so often fatal disease, cholera infantum. Milk punch was ordered to be given constantly, a sinapism applied to the epigastrium, and the chalk mixture continued. At ten P. M., the child had a slight convulsion, followed by coma, with the eyes open and fixed. In this state it expired at five the next morning. The later evacuations contained a little blood.

Post Mortem. An examination after death, discovered no effusion into the ventricles of the brain, and no softening of any part, but slight venous congestion throughout. The lungs and heart unaffected. The liver healthy; the gall bladder full, but not distended; the stomach, which had been excessively irritable, exhibited no inflammation, but, on the contrary, was pale. The same might be said of the intestines, which, through their whole extent, presented a remarkably pale appearance, as may be seen in the specimens. The point to be shown, however, is the condition of the glands. The solitary glands

can be seen hypertrophied, and the patches of Peyer are very prominent. There were no ulcerations. The glands, both solitary and agminated, were full and prominent, as if distended with fluid not tuberculous.

Dr. Conant presented a skull very extensively fractured, showing the terrible effects of fire-arms when discharged in close proximity to the object, as in this case. A part of the temporal bone was entirely blown away. It was the work of self-destruction.

Dr. Bouton presented a stomach, removed from a woman who had died of delirium tremens. The specimen was highly injected indicating a condition and habit on the part of the victim similar to the cases before exhibited to the Society, showing the effect of adulterated liquors. Some discussion was excited by the specimen, as to the kind of liquor drank under such circumstances, ending in the general conviction that brandy, so called, is the most frequent article used.

No other specimen being presented, and the relation of cases being in order,—

Dr. Conant gave the history of an interesting post mortem examination made by himself, in July, for Dr. A. K. Gardner. Mrs. ——, aged forty-five, had suffered some two years with what was supposed by her attending physician, to be cancer of the womb. She had passed considerable pus from the bladder with the urine, also, something looking rather suspicious from the rectum ; hence it was supposed that the rectum and bladder were involved in the malady. Some few months previous to death, she had ceased to pass urine by the natural passage, but it all dribbled away per vaginum. These are all the symptoms manifested during life, with which Dr. Conant is acquainted. The autopsy was made some fourteen hours after death. External appearances normal. Emaciation not great. Thickness of the abdominal parietes not far from one inch ; muscles of good color with some fat. The peritoneum was found completely covered by partially organized plasma. There was also about two quarts of fluid, of a purulent nature, in its cavity. The intestines were more or less bound together by bands of organized lymph. Internally they presented no particular marks of disease. Liver normal, perhaps slightly fatty. Stomach, spleen, and Pancreas, all healthy. The left kidney was somewhat congested, while the right one contained a large abscess which occupied the entire lower half of the organ ; the ureter upon this side was somewhat thickened, though the canal was free. The bladder, uterus, and rectum, were removed

in a mass, that they might the better exhibit their precise condition. The mucous membrane of the vagina was apparently studded with small calcarious deposits, so thick as to give it the appearance of coarse sandpaper. The entire posterior wall of the bladder was gone, as was also the corresponding portion of the vagina. There was no opening of a fistulous nature into the rectum. The womb was a mere shell, amounting to nothing more than the peritoneal lining, upon the whole of which was attached small bits of ragged uterine tissue, as though the whole organ had been eaten away by a corroding ulcerative process from below upwards. The same roughness continued upwards into this uterine shell, though not quite as well marked as in the vagina. There was no sign of an os uteri to be found. The thoracic organs were healthy except some slight pleuritic adhesions, and very slight atherometous deposit in the aorta.

NEW YORK PATHOLOGICAL SOCIETY.

Reported for the MONTHLY by E. LEE JONES, M. D., Secretary.

June 25th.—*Dr. Alonzo Clark* presented a heart removed from a child, which lived six days and one hour. The case occurred in the practice of Dr. Blakeman, who attributed death to some malformation of the heart. At the request of Dr. Blakeman, he examined it, and on inspection it is seen to be a *single heart*, with one ventricle and one auricle, and apparently there is no attempt to produce another ventricle or auricle. The aorta is large. One large vessel arises from the ventricle. From the aorta, at a low point, two vessels are given off. In what manner the blood was conveyed to the lungs is not clearly manifest, though he conjectures that these two vessels were the pulmonary arteries. The child suffered but little inconvenience, was a little blue in the face, was well grown and plump.

Dr. Clark then exhibited a specimen of common occurrence, and not of much interest in itself, namely: a portion of fungus cerebri, following a severe injury.

It was placed in his hands by Dr. Buck, and at his desire, he examined it by the microscope, with a view of ascertaining the nature of the material constituting the excresence.

Surgeons generally consider it to consist of the substance of the brain; he, however, failed to discover brain matter of either kind, but cells and granules were observed in considerable quantity. No nerve

fibres were seen. It was constituted differently in different portions. One part is composed of granules of various sizes, greatly resembling in structure the diptheritic membranous exudation, described by Bretonneau, and a specimen of which was laid before the members at a meeting of the Society some months ago. (in February, 1855). Another part is seen to consist of granular cells with minute nuclei, and another contains cells with large nuclei and nucleoli. No part of the cranium could produce a substance similar to the second variety. It is constituted altogether independent of brain matter. In the first and second parts single fibres are seen.

Dr. T. C. Finnell presented a calvarium, removed from a patient fifty years old, who died of acute bronchitis. On the superior portion of the internal table are four depressions, caused by the pressure of the Pacchionian bodies. In three of them the absorption has extended through the diploe, leaving only a thin shell of bone between the dura mater and the exterior of the cranium.

Dr. Finnell next exhibited the heart of a boy who died of acute meningitis. He had always enjoyed good health. Two days previous to his death he was exposed to the sun. In the evening he complained of pain in his head, and during the night he vomited, had high fever, and soon became delirious. Towards the next evening coma commenced, accompanied by slight convulsive twitchings, which recurred at intervals until death, which took place about forty hours after the attack.

Autopsy, twelve hours after death, revealed the anterior surface of the brain covered with pus ; no arterial congestion. Sinuses moderately filled with blood.

Lungs healthy, but adherent at several points. Mesenteric glands enlarged.

Dr. Finnell then presented an uterus, obtained from a married woman, the mother of five children, showing ulceration of the mouth of the womb. The mucous membrane of the upper part of the vagina, together with the os and cervix uteri, were intensely injected, softened, and in some places presented to the finger a roughened surface. Cause of death, apoplexy.

Dr. Cox presented a specimen of serous cysts of the kidney for Dr. H. N. Bennett, of Bridgeport, accompanied by a written history.

The pathological specimen here presented, was taken from a gentleman, 48 years of age at the period of his death. In a symptomatological point of view, I believe this case to have been almost unique. I had been the medical attendant of this man for thirteen

years previous to his decease, and during that period he for the most part enjoyed firm health, having a robust frame, and a degree of embonpoint approaching at times to corpulence. The only exceptions to his general good health were occasional attacks of what was considered indigestion, the result or accompaniment of some functional derangement of the liver. At these times he suffered much from abdominal pains, gastric irritability, and diarrhœa ; the skin became slightly tinged with yellow, the tongue covered with a thin yellowish coat ; the quantity of urine was never much diminished, but during the latter years of his life was much increased, and he was commonly required to rise once or twice each night to void it. The patient dated these attacks from a severe dysentery many years previous, since which time he had had, to use his own familiar expression, these "*troublesome bilious turns*," generally but once a year, however, and that during the Summer season. Appropriate treatment directed to the alimentary canal and liver, always relieved these indispositions in a short time.

The Summer previous to my patient's death, his health became more seriously impaired, and his indisposition was more persistent. At this time constipation took the place of diarrhœa, but the same loss of appetite, gastric irritability, pale yellow tinge of the skin, &c., occurred as on former occasions. After the severity of the symptoms had subsided, I advised him to a change of air, and acting upon this advice he made a visit to the western part of New York, remaining there several weeks. He then returned home much improved, and continued through the Winter to enjoy comparative health, but not the vigor of former years. In the month of April he began again to decline, presenting the same train of symptoms as during the previous Summer, with the addition of considerable dyspnœa upon slight exertion. I now began to feel much alarmed at his condition, and thoroughly examined the thoracic organs, fearing that there might be organic disease in that region, but could detect nothing whatever. The alvine evacuations at this time were also perfectly normal in appearance, showing no deficiency of bile or anything to suggest the existence of organic or even functional disease of the liver. Under these circumstances, I naturally adopted the diagnosis by exclusion, and directed my attention to the kidneys. The urine was of very nearly normal appearance to the eye, but upon testing it with heat and nitric acid, I found it contained large quantities of albumen. The quantity of urine was above the normal standard, and its color somewhat paler than usual. It must now be

borne in mind, that my patient had never complained of pain in the renal region, had never had œdema of the extremities, or effusion in the serous cavities, had never manifested any of the cerebral symptoms common in Bright's disease, in short, had never exhibited any of the more positive diagnostic symptoms of organic disease of the kidney. But here was evidently the sole seat of organic disease. This case is still farther remarkable, inasmuch as none of these symptoms were developed up to the period of death, with the exception of coma a few hours before dissolution.

Some six or eight days before his decease, my patient began to complain severely of sore throat, and this anginose affection appeared to increase in intensity, up to the last day of life. The mucous membrane of all the posterior fauces exhibited a deep red color, very nearly resembling that of the angina which usually accompanies erysipelas. The dyspnœa at this time was very great and formed the most urgent symptom. Nothing afforded even temporary relief, and he gradually sank, becoming comatose a few hours previous to dissolution.

Post Mortem.—The autopsy presented a remarkably healthy condition of all the thoracic and abdominal organs, with the exception of the kidneys. These were both much increased in size, the enlargement being the result of the development of numerous cysts in the whole substance of the organ. They varied in size from that of a large filbert to that of a pin's head. The majority were filled with a clear albuminoid fluid, having not at all the odor of urine; a portion contained a muddy fluid, varying in color from a deep brown to a brick dust red, appearing to me like the *debris* of old extravasated blood mingled with the clear albuminoid fluid abovementioned. Portions of the tubular substance of both kidneys appeared to be in a comparatively normal condition, but the cortical substance seemed almost wholly in a degenerated state, and here the cysts were large and very numerous.

The development of cysts in the kidney is by no means a rare occurrence, and their genesis is so well determined that it would be idle for me to attempt to present anything new upon this subject; but I believe it to be very rare that this degeneration proceeds to so great an extent as in the present case, while the general health is so well and so long preserved, and so few of the ordinary symptoms of renal disease are developed. The organic changes in this case must have been the work of years; and yet, up to a few months previous to dissolution, no serious derangement of the general health occurred,

and no symptom pointing directly to the seat of disease. I attributed the dyspnœa accompanying the termination to uræmic poisoning, as it was too gradual and of too long continuance to admit of the supposition of œdema glottidis, one of the very rare terminations of *morbus Brightii*.

The only plausible explanation of the great want of renal symptoms for so long a period in this case, appears to me to be in the hypothesis that the cyst-formation was the predominant pathological element, and that a large number of the urinary canals remained for a long time previous, and in a comparatively normal state. It may readily be conceived, adopting the cyst-genesis of Frerich and others, that the blocking up of isolated tubuli by the fibrinous exudation, and the consequent distension of the Malpighian capsules into cysts, might go on for a series of years before involving so large a portion of the kidney as to cause the system seriously to feel the organic change and consequent loss of function; and furthermore, this gradual degeneration of the kidney would be much better borne than a sudden change in a large portion of the organ, such as is common in other more acute forms of Bright's disease.

CHRONICLE OF MEDICAL PROGRESS.

Results of the Quantitative and Qualitative Analysis of Homœopathic Medical Preparations. By Edward H. Parker, M.D., of New York City. Read before the New Hampshire State Medical Society. (*From the Transactions.*)

During the last two years my attention has been repeatedly called to the drugs used by gentlemen professing to practice medicine "homœopathically." In consequence of my observations I determined, as opportunity offered, to obtain specimens of the remedies actually used by these practitioners, and sold by various pharmaceutists, and to submit them to an experienced chemist for analysis. This has been done in three instances with the following results:

The first analysis was made of the contents of two vials, marked respectively *Mercurius Solubilis*, and *Arsenicum*. This is their history.

A gentleman with whom I had become acquainted in some business connections, often talked to me of his health, and of the treatment to which he was subjected by a prominent homœopath of this

city. Among other powders, he showed me some which he was taking, and which I was sure contained a notable quantity of nitrate of silver. He also praised the treatment to which his child was submitted when it had a diarrhœa from teething, or other cause. A gray powder and a white one were given alternately, and the child liked to take them. His wife kept them constantly by her, and if the child had a discharge from the bowels which she thought was a little too loose, she would give her a few doses of these powders. She thought, however, that the blackish powder *(merc. solub.)* did the most good. My friend constantly urged me to try them, for, I think that because I did not rail at homœopathy, but spoke of its practitioners as I would of other gentlemen, he had some hopes of converting me to his faith, than which I can conceive of no more preposterous supposition. Finally, I requested him to procure for me some of the same powders he was using for his child. This he did, and I placed them in the hands of Dr. Arthur Du Berceau, of this city, who is a skilful analytical chemist. This is his report:

One hundred parts of white powder, marked *Arsenicum Alb.*, contains 1.112 of *Arsenious Acid.* The remainder is *cane* sugar. The Second, marked *Solubilis Mercury*, contains in one hundred parts 11.00 of *Metallic Mercury.* The remainder is *cane* sugar. The mercury was in the condition of black oxyd, obtained by the reäction of proto-nitrate of mercury and ammonia.

The mother, when told of the amount of mercury and arsenic which she had been giving to the child, was horrified, and has since used them less indiscriminately.

At my request the same friend purchased for me a case of medicines of a homœopathic druggist. It is like those which he ordinarily sells for family use. This I also placed in the hands of Dr. Du Berceau, and he obtained the following results.

In the bottle marked Calc. Carb., 100 parts of powder contain 1.066 Carbonate of lime.

In the bottle marke Carb. Vegetabilis, 100 parts of powder contain 0.500 fine Charcoal.

In the bottle marked Arsen. Alb., 100 parts of powder contain 1.120 Arsenious Acid.

In the bottle marked Mercur. Solub., 100 parts of powder contain 1.350 Metallic Mercury

In the bottle marked Hepar. Sulph., 100 parts of powder contain 0.900 Sulphur.

In the bottle marked Stibium, 100 parts of powder contain 0.500 Oxyd of Antimony.

In the bottle marked Sulphur, 100 parts solution contain 0.100 Sulphur.

In the bottle marked Phosphorus, 100 parts solution contain 0.430 Phosphorus.

The fluid contents of the vials in the case, with the exception of the last two in the preceding list, were not examined, partly because I wished to preserve them to satisfy the minds of those who might desire to see for themselves ; and partly because it is so difficult to do anything more than to ascertain the quantity of solid matter which remains after evaporation of the menstruum. The qualitative analysis of organic substances is well known to be one of the most difficult and uncertain of the operations of the chemist. The sugar in these powders was that obtained from milk.

It will be observed, that in this instance the arsenic and soluble mercury are the strongest preparations, though the latter does not compare in its amount of metallic mercury with the proportion found in the first analysis. These two remedies seem to be great favorites with homœopaths, being frequently prescribed by them. Why this is we now understand.

About the same time I obtained a set of preparations which had been used by a physician who determined to try his hand at homœopathy, and took advantage of the position which he occupied in one of the dispensaries of New York to make his experiments. After his resignation, the preparations which he had been using were left in the hands of the apothecary of the institution, and some of them were selected by me for analysis. They were purchased at a different shop from those which were before analyzed, and the direction given was, that when about two-thirds of the vial in any bottle (they were all solutions,) were used, the vial should be filled up with proof spirits. This will, perhaps, account for some of the variations in the strength of the preparations. It was found that there was of—

Tincture of Silica, in 100 parts 0.025 of Silica.

Tincture of Hepar. Sulph., in 100 parts 0.050 of Hepar. Sulph.

Tincture of Baryta Carbonica, in 100 parts 1.450 of Carbonate of Baryta.

Tincture of Calc. Carbonica, in 100 parts 0.500 of Carb. of Lime.

Tincture of Arsenica, in 100 parts 0.025 of Arsenious Acid.

Tincture of Carb. Vegetabilis, in 100 parts 0.050 of Charcoal.

Tincture of Mercurius Solub., in 100 parts 0.100 of Solub. Mercury.

Tincture of Lachesis, in 100 parts 0.025 residue after evaporating the alcohol.

Tincture of Sepia, in 100 parts 0.025 residue after evaporting the alcohol.

Some of these preprations, as the Baryta Carbonica, contained a thick sediment which carried up the per centage. The other preparations which were left were vegetable, and were therefore excluded from the analysis.

These are all the analyses which I have yet caused to be made, but they are somewhat instructive. The first two preparations were obtained by the direction of a homœopathic practitioner, and one of them, the *merc. sol.*, is more than one-tenth pure mercury, the proportion of the oxyd being consequently somewhat greater. The "arsenicum" contains 1.112 parts of arsenious acid, while the usual form in which arsenic is given, viz: Fowler's solution, contains one-half a grain to each fluid drachm, the dose for an adult being about ten drops.

The second analysis was of drugs sold for "family use," and it is observable that the *arsenicum* is even richer in arsenious acid than the first. The *mercurius* has a much smaller portion of metallic mercury, and yet there is sufficient in it to produce all the effects of this metal when given in small doses. The tinctures accompanying the powders, are, so near as I can tell by the ordinary modes of examination, of as great if not greater strength than the corresponding preparations used by physicians. Though contained in small ounce vials, their color is marked—the Rhus Toxicodendron, for instance, being of a deep olive color, as is also the tincture of Dul. camara. Ipecacuana, aconite, arnica, cantharides, all give tinctures of decided color in these small vials. The aconite, indeed, I have used for patients, and find that it produces the same results that ordinarily follow the use of the saturated tincture. Having occasion to use tincture of chamomile, I had some made by a druggist, and filled one of the vials with it. The color of the homœopathic preparation was quite as marked as the other. The tincture of *china*, which being translated means *cinchona*, is a good simple tincture of Peruvian bark.

The third set consists of much weaker preparations, and yet here it is noticeable that, excepting the carbonate of lime and the carbonate of baryta, *merc. solub.* stands highest in its proportion.

If an average is made of the per centages of these three analyses we shall have this result: for the first 6.056, for the second .745, for the third .250. In contrast with these figures others may be put, showing the per centage of the drug which is left, in prepara-

tions made according to the directions of Hahnemann for potentizing medicines. The first dilution has in 100 parts 1 part of the drug. The second dilution has in 100 parts .01 part of the drug. The third has in every 100 parts .0001 part of the drug. Beyond this it is not necessary to go; though every one remembers how much stress was and still is laid upon high potentizations, those who use the thirtieth dilution being considered very moderate. The two hundredth is much preferred by some, and yet the weakest preparation of these three classes, obtained from direct sources, is stronger than the second dilution.

It may be asked how it is that such an abandonment of "potentization" should have occurred among homœopathists themselves, for these drugs came from their pharmaceutists, from the shops patronized by all the prominent men of that school in this city. The question can be answered only by referring to the positions which they now occupy. If these gentlemen are shown such proofs of the strength of these preparations as these analyses afford, or such as the very appearance of their tinctures gives, they will not for a moment deny that we are correct, or that there is anything in this which is inconsistent with homœopathy. They will say they are *homœopathists*, but they are not *Hahnemannists*. O no! not they. How could one be so stupid as to make such a blunder. They believe in the doctrine, *similia similibus curantur*, but they do not find that potentization as taught by Hahnemann is borne out by experience. To be sure, this is no more than the whole medical profession has been saying ever since the absurd doctrine was propounded, and it is no more than common sense teaches; but if one suggests this to them, and congratulates them on their returning senses, he gets very little thanks for his trouble. The fact, however, of this entire change of position should be more generally known and appreciated by the profession than it is, so that we may not waste time in assailing a position which has been entirely abandoned. It is safe to attribute any supposed effect of a decillionth of a grain of charcoal to imagination, but it is not quite safe to attribute to the same influence the effects of five drops of saturated tincture of aconite. Under these circumstances it might happen that a homœopath and a physician would both treat a patient in the same way, their only difference being in their process of reasoning. Both give quinine in intermittent fever; the homœopath because, as he alleges, it will produce in a healthy person similar symptoms; the physician for the reason that he knows it usually cures the disease; not, as is slanderously report-

ed, because he believes it will produce symptoms unlike intermittent fever. He is no *allo*path. It did in fact happen to a friend of mine to be asked to see a patient who was under the care of a homœopath, not in consultation with him, but because he was desired to give his opinion whether or not it was safe to trust the patient still longer under the treatment. The disease was typhoid fever, and he found Spiritus Mindereri and all the usual remedies in ordinary doses, the patient doing very well. He could not but say to the attendant, "if this is homœopathy I am a homœopath." To be sure the physician may write a prescription for *cinchona*, and the homœopath may write one for *china;* or the one for *hydrargyri oxidi nigri*, and the other for *merc. solub.;* one for *antimony*, and the other for *stibium*, but both mean the same thing, and the patient will receive the same drug.

It is a question of practical interest to the profession to ascertain what there is of good, if any, in homœopathy. Almost every "new school" enables us to gain some profitable suggestions, which repay the labor of sifting them out of a large mass of chaff. The Hahnemannists have tried experiments in the treatment of diseases with nothing which we should not have been justified in making, and they have thus taught us something in the natural history of disease. In their progress from infinitesimals to large doses, it has been necessary for them to conceal the change in their medicines, and therefore they have studied the art of giving medicines in the most agreeable, or in the least offensive form, and in this respect we can learn something from homœopathy. The old school of practitioners, who, when called to a patient's house, seemed to make it their first duty to fill it with eight-ounce vials, have not entirely passed away, neither have their abominably tasting compounds entirely disappeared. Their big bottles, their table spoonful doses, their nauseous mixtures, have driven and still do drive family after family to homœopaths, simply because it is not human nature to desire to drink such a mixture as tincture of aloes and assafœtida with castor oil and turpentine in equal parts, a wine glass full at a time, if almost tasteless water or a sweet powder will accomplish the same good. To doctors, even, when they fall sick, an agreeable draught is preferable to one the very thought of which stirs them to their lowest depths.

It is not necessary to point out the mode in which concentrated tinctures can be made to supply the place of less powerful preparations. Neither is it necessary to do more than hint at the frequent desirableness of giving small doses often, rather than a single large draught. A few drops of aconite tincture, in water, is vastly pleasanter

than even spiritus mindereri or sweet spirits of nitre. The dose of Norwood's veratrum viride is much pleasanter than infusion or even tincture of digitalis.

But the lesson is more important with reference to powders. For adults, solid substances can usually be given in pill form, but there is no necessity of rolling them in powdered aloes. To this day I can not rid myself of the remembrance of the disgust with which I used to swallow pills so coated, and with difficulty convince myself that the druggists now use only liquorice or more tasteless powders. Still, for these pills we need not select the most bulky drugs. The active principles of plants, when isolated, aid us in diminishing our pills, and will still more when their powers and properties are fully tested.

Children, however, do not readily swallow pills, and agreeable powders are often a great desideratum while treating them. A child's life may depend upon his taking remedies willingly and without compulsion. Thorough trituration of the drug with sugar seems to accomplish this best, especially if, when it is practicable, the doses are divided, but repeated oftener. The homœopathic dispensatories direct that powders should be placed upon the tongue and allowed to dissolve, when they are to be washed down with a good draught of water. There is some philosophy in this, for the dissolving sugar first gives the impression to the nerves of taste, and the water washes down the balance almost untasted. In the minds of children, moreover, the first taste seems to be associated with the fact of taking the powder, while the second and more disagreeable one is not remembered against the dosing. To avail one's self of this fact, it is necessary that the sugar should be reduced to an impalpable powder ; otherwise the end is not obtained. If, for instance, ordinary crushed or granulated sugar is used, it will be found that it is not an actual powder, but a mass of more or less complete crystals. On mixing a powder with these it either falls to the bottom, or, clinging to the crystals, coats them over. In this condition the sugar is less readily dissolved than when in powder, and in addition, each crystal is covered on its outside with the drug, which is first dissolved and gives its taste to the whole mass. Here, then, is the advantage, and the only one of the triturations recommended by Hahnemann.

Operation by the Ecraseur.—A singular-looking horny growth, a warty exudation from an epithelial cancer of the scrotum, was removed by the Ecraseur, by Mr. Stanley, at St. Bartholomew's, on the 5th instant—the first opportunity, perhaps, which has been afforded of using the instrument in London. The mode of removal of such growth seems to be by strangulation ; the Ecraseur consists essentially of a loop of jointed chain, not exactly like a chain-saw, but with a blunted serrated edge ; this loop is tightened or slowly worked upon by a wheel and ratchet attached to the handle. The part of the scrotum to be removed was first isolated by a thread tied tightly round it, and next the loop of the Ecraseur was applied so as to strangulate it ; the chain was next gradually tightened four times each minute, by a given movement of the handle of the instrument, till at last, in about four or five minutes, the part fell off, quite cleanly amputated. Very little or no blood was lost by the operation ; but subsequently a slight exudation of blood, as we might have expected, was observed. The man having been placed under chloroform, no pain was caused ; while the absence of knives, forceps, &c., had an effect more easily perceived than described. With quickness, it seemed as if the parts could be all amputated and brought into apposition again without any pain or hæmorrhage whatever. This dispensing with the ligatures of vessels, so troublesome after some operations, and the absence of that plunging of the patient, as he regains consciousness, while the ligatures are being tied, was also very generally observed. With the aid of chloroform, it seems the very perfection of operative surgery, if perfection be allied to absence of bleeding and absence of pain.

Mr. Stanley related another case of singular horny growth from an old lady's head, springing from one of the common painful encysted tumors of the scalp. This preparation is of immense size, and is preserved in the museum. Here Mr. Stanley, we believe, enucleated the root with a knife ; before chloroform was invented, the operation being very agonizing. It was stated by Mr. Paget, on the other hand, that the new instrument had removed the thigh of a large dog, under chloroform, without hæmorrhage, and without apparent suffering ; so that, if not open to the objection of causing tetanus (which we should, on theoretic grounds, fear), the Ecraseur bids fair to be a most valuable invention.—*Association Med. Jour.*

A writer in the *North British Review* for August (Am. Ed.), makes the following curious comparative statements upon the length of life of the late Samuel Rogers :—

A man who lives ninety-three years is remarkable,—much more a poet who lives ninety-three years,—and more still, a poet who lives ninety-three years in the very centre of the social and literary activity of his country, and in possession of such means as enables him to be in cordial and even influential relations with it all. Ninety-three years ! Why it is no insignificant bit of the entire duration of the world ! Seventy Samuel Rogerses, at this rate, might shake hands in an unbroken chain up to Adam ; twenty would connect us with the commencement of the Christian era ; nine would take us back, with room to spare, to the date of the Norman conquest ; and three linked together would reach into the age of Shakespeare. What Samuel Rogers lived through, therefore, between 1763 and 1855, was, measuring by bulk alone, a seventieth part of all that has taken place on the earth since first there were human beings upon it ; it was a twentieth part of all human history ; it was a ninth par. of all that Mr. Macaulay would include in the truly national History of England ; and it was about a third part of properly British history, or of the history of England and Scotland since their union.

Case of Three Bronchi Springing from the Trachea. By M. E. Leudet.

I have met this anomaly, which is rather rare, in the dead body of a man who died of pulmonary phthisis in May, 1855, in the Hotel Dieu, at Rouen.

The third division of the trachea, which was much smaller than either of the others, passed to the upper lobe of the right lung. The arrangement of its cartilaginous rings was completely analogous to that of the other bronchi ; it took its origin from the same point as the two normal ramifications. The right lung was therefore furnished with two bronchi, and the left with but one.

This anomaly, though tolerably rare, has been before observed ; thus M. Cruveilhier states that he saw a little bronchus arise directly from the lower part of the trachea and pass to the summit of the right lung.—*Gazette Medicale de Paris, July* 5, 1856, p. 420.

Deductions from Prussian Vital Statistics. By E. B. Elliott.

Population of Prussia at the end of the year 1840,	14,928,501
Excess of births over deaths during the three years 1838, 1839, 1840,	486,937
Proportion of annual marriages during the two years, 1840–41, to the population at the end of 1840, 1 per cent. (.899) or	1 in 111
Average annual number of persons married during the same period, 2 per cent. (1.80) of population, or	1 in 56
Average annual number of births, stillborn included, of the two years 1840–41, 3.95 per cent. of population, or	1 in 25
Average number of births, stillborn excluded, of the same period, 3.80 per cent. or	1 in 26
Average number of deaths, stillborn included, of the same period 2.81 per cent. or	1 in 36
Average number of deaths, stillborn excluded, 2.64 per cent. or	1 in 38
Average number of deaths among those over 5 years of age, of the same period, 1.73 per cent. of the population over 5 years of age, or	1 in 58
There died over one year of age, of total births, 18 5 per cent. or	1 in 5 (5.4)
There were stillborn of male births, 4.2 per cent. or	1 in 24
There were stillborn of female births, 3.3 per cent. or	1 in 30
There were stillborn of total births, 3.8 per cent. or	1 in 26
The ratio of male to female births, stillborn included, for the twenty-six years 1816–41, was as	106 to 100
Stillborn males to females for the three years, 1839–41	136 to 100
Of total deaths during the three years, stillborn excluded, there attained the natural term of life, and died of the debility of old age,	12 per cent.
There died by suicide,	4 per cent.
There died by accidents of all kinds,	1.5 per cent.
Of female deaths there were in child-bed,	2.4 per cent.
The number of deaths of women in child-bed to the total number of births, stillborn included, was	.79 per cent.

EDITORIAL AND MISCELLANEOUS.

In continuing the subject of Hospital Nursing, which we discussed at some length in our last issue, we remind our readers that we had arrived at a description of what has been done in our country to accomplish the introduction of Sisterhoods, having this for their especial object. In comparison with what we have found in Europe, our own country furnishes but a few examples of what can be done in this department of charity. We have alluded to the extent to which the Order of St. Vincent de Paul has been introduced, so far as its members concern themselves with hospital duties, omitting in our enumeration those who are concerned in the other objects of the Order, as education. The first Protestant Sisterhood which we can boast, is an offshoot from that parent institution at Kaiserswerth, to which we have had so frequent occasion to allude It was established at Pittsburg, Pennsylvania, in 1849, by the exertions of the Rev. Mr. Passavant, a Lutheran clergyman, who had become acquainted with the Order in Europe, and desired earnestly to introduce it in this country. Four "deaconesses" were sent out by Pastor Fliedner, from Kaiserswerth, and he himself accompanied them to assist in the opening of their institution. We believe we are correct in stating that they have a hospital with between thirty and forty beds, and an asylum for orphans, though we are not able to give so full an account of it as we had hoped to do.

The second Protestant Sisterhood of this country, is that founded in the year 1852, in connection with the Parish of the Church of the Holy Communion, in this city, under the care of the Rev. Dr. Muhlenberg. It sprang from an earnest desire on the part, not only of the clergyman, but of some highly accomplished and earnest-minded ladies to meet the want, which was everywhere apparent of just such an organization. It has not had the prestige of age, or of introduction from a foreign country, but has been compelled to struggle on against reproach and misrepresentation, its members disregarding these if good might be done. There is a small hospital of some fifteen beds under their charge, while a dispensary is open daily for all, within a certain district, who choose to apply for its assistance. One of the Sisters acts as apothecary, putting up all the prescriptions with, at least, as great accuracy as is done in other similar institutions. At Baltimore and Chicago, we believe some steps are being taken for similar organizations, to which we must wish God speed.

In a little work published in England, on the subject of Hospitals

and Sisterhoods, we find the following sentence in connection with the mention of the institution at Pittsburg :—"The Protestant women of America do not, however, seem much disposed to the self-denying work of a Deaconess, and only six have come forward since its opening as probationers." In this there is too much truth, and yet we are rather of the opinion that prejudice, founded in erroneous opinions, more than lack of self-devotion, are the cause of this backwardness. We are permitted to insert the following upon this point, written by one deeply interested in, and entirely familiar with, the subject :—

"The results thus far prove, unmistakeably, the value, both physically and morally of such agency in hospital work ; but it must be confessed those offering themselves for this service are fewer than might have been expected. Enough, indeed, have come forward to prove that there are among us Christian women, ready in heart and hand for this labor of love, but the number of these is very small compared with the need there is for them, and compared, too, with what we know of the amount of female piety and devotedness in the several congregations of our city. The *private* character of the institutions referred to, and more particularly that of the Church of the Holy Communion, may in some degree account for this ; but is not a truer explanation to be found in the *false custom*, which has so long excluded cultivated women from this noblest and most disinterested exercise of the best gifts and qualifications of their sex ? Let us break down this barrier, by throwing open the wards of our hospitals to such nurses, offering them (under regulations suited to the peculiar economy of each institution,) the sanction, encouragement, and protection, without which *ladies* could not be expected so to engage themselves. Let us invite them, urge them *by the need there is of their services*, to cooperate with the physician in his sacred duty, and we shall see whether there will be altogether lacking a parallel to the hearty response which the women of England made when the cry came for nurses for the Crimea. Says one of their writers in a pamphlet bearing upon this subject,—'With the news of the victory of the Alma, there came also the tidings that three thousand wounded men lie, helpless and unassisted, in the hospital at Scutari, with their wounds festering in their flesh for want of nurses to attend them. The whole country is roused ; help must be found and that without delay ; newspapers are inundated with letters and suggestions, and the bitter, long-standing prejudice of well nigh an entire people is blown to the winds before the irresistible power of a practical necessity. . . .

Within three days of the time when the want was first made known, *two hundred and eighty* women of gentle birth, applied for permission to go out to the East as nurses, showing by the most incontestible proof what treasures of devotion and self-denial, what wealth of energy and talent, whereby thousands might be influenced for good, have been wasted and destroyed by the wretched, narrow-minded system already described.'

Now it is true, we cannot offer our countrywomen the chivalrous excitement of a journey to a foreign land to nurse wounded soldiers, neither can we give them for leader, a heroine of Florence Nightingale's intellect, nerve, and devotedness ; but the elements of our nature are the same here as there, and there are, as has been shown, multitudes pining in our hospitals for want of refined female sympathy and care, and there are, we will not doubt, many American women abundantly qualified or willing to learn to qualify themselves for such ministrations, were the field for their exercise fairly opened to them.

Should we at least conclude otherwise until the opportunity has been given ?"

Medical men possess no little influence in such matters, for to them is the question frequently put, whether or not such a radical change in this department of our hospitals would be desirable. It is because this is so that we have ventured to bring the topic forward somewhat prominently, that when occasion offers, they may be prepared to give an intelligent, unbiased opinion upon the subject ; that they may not allow an opportunity to slip by for encouraging so excellent a work without doing all they can in its favor. It has been our endeavor to show, that the objections which Protestants entertain to sisterhoods, are in part unfounded, and in part foreign to such organizations ; that not only reason but experience has shown that these organizations are useful, that their place can be supplied in no other way, and that the patients would be greatly benefitted by such care.

Upon another point we again touch. Hospitals are one of the blessings which christianity has brought in its train In their original arrangement, provision was not only made for the care of the body, but also for the well-being of the soul. Religious instruction was furnished to those who were the recipients of its care ; and thus it was made a double blessing. But of late years, and more particularly in our own country, care of the body has been their sole end and aim ; that which we regard as being, to say the least, equally

important, being entirely neglected. The causes of this are not difficult to discern. It was formerly the case that building hospitals was the direction in which ran the ideas of religious men, and by their diligent care and thoughtful foresight, as well as munificent donations, they were placed upon a firm basis. Almost every government of Europe recognizes some form of religion as being that of the State, so that its support is one of its objects. Whenever, then, a hospital has been founded, it has been with full consciousness of religious responsibility, and the State has not hesitated to lend to it its assistance with especial reference to the same religious aim. In our country it is different. Here the State separates itself from the Church, and although religion is the basis of our institutions, directs in the formation of our laws, and underlies our whole social fabric, the State does not formally lend it any assistance. The State neither enforces nor suggests any uniformity of religious faith, but tolerates all, even to the wildest vagaries of the followers of the Mormon Smith. When, then, an institution asks for aid from the State, it does not go as a religious body to the authorities of the Church, but has especially to disclaim or to keep out of sight its connection with any religious fraternity. Such a connection does in fact directly lessen its chances of success, for its opponents shout out the war cries of all opposing religious parties, and the door of the public treasury promptly closes in the face of the needy applicant. Medicine then stands triumphant, the first, the only thing that is paramount in the institution, the only thing the State dares support. Hence has come the entire separation of hospitals from one of the great purposes which they are able to accomplish, and to which we would that they could be recalled. In the quiet unobtrusive but effective labors of the members of sisterhoods, we see the only chance of this restoration. Let us, as medical men, cease to regard hospitals as simply medical institutions—the amphitheatre, the centre round which the wards are to be clustered—and open our eyes to their other uses.

It is about two years since we noted the laying of the corner stone of St. Luke's hospital, in this city, an institution which is built by members of the Episcopal Church, and is under their control, though it will receive patients without reference to their religion. It is not yet ready for occupation, though it is nearly completed. The promise of its fine airy wards and its excellent arrangements, excite sanguine anticipations of its usefulness. A peculiarity of the building is, that between its wings a chapel is interposed, and its whole arrange-

ments contemplate not only the cure of the body but religious instruction. To this institution we look, as the only one in our city at present, likely to illustrate the advantages of returning to the original idea of hospitals. If the sisterhood to which allusion has been made as being already established in this city, is allowed to take the charge of its internal management, it will be indeed fortunate, and its patients must be benefitted by the care of such experienced ladies. Their training in their own infirmary would be brought into use in charge of this institution, and by the accessions which they may reasonably anticipate, they would be equal to the task, even if its two hundred beds are filled. Perhaps their success may urge others to emulate them, and take away the reproach which has been cast upon our countrywomen : as caring only for display or devoting themselves to the wild vagaries and unseemly exhibitions of "woman's rights conventions."

Academy of Medicine.—The September meeting of this body was almost entirely devoted to a discussion upon the Report of the Building Committee. After a prolonged debate upon the ways and means proposed by the Committee, with many iterations and reiterations of the disputable points, by the few engaged in it, the Report was accepted, and the committee discharged. It was then resolved to appoint another Committee, whose duty it should be to see the instructions of the Report carried out. This new Committee is to be elected by ballot at the next sitting of the Academy.

The Report can be examined from two points of view. It has its serious and its ludicrous side. As a journalist, watchful of the interests of the profession, and looking with a dispassionate eye at every movement made for the improvement of our local societies, we must view it upon its serious side, and chronicle it with all becoming dignity.

Does the Academy need a Hall at the present time? In our opinion it does not. It has neither a valuable library, nor a priceless museum to preserve. Its infrequent sittings, as a body, or in its different sections, require no special building, the cost of which would ever be a burden upon its resources, while rooms sufficiently large for all its present purposes, can doubtless be obtained free, or for a small yearly rent, in the Cooper Institute.

We might recall the modest habitation of a similar society in a foreign city—a society whose labors are renowned—and institute a

comparison with the more pretentious aims of our own Academy. But there is no necessity for precedent. It is no reason that we should have a larger or smaller building, because a similar society in another city has a smaller or larger building, or even that we should have any building at all. Necessity and ability should be the guiding motives, not a vain ambition or servile imitation. But the Academy has necessities which it can relieve. It has neither library nor cabinet. These, to our mind, in the present state of our profession in this city, are far more deserving of the earnest attention of the Academy, than the subject of a building. To supply these wants would be worthy the immediate action of such a body. A quarter of the money proposed to be put into a building, would give us a library of which we might be proud, and which, upon the principle of accretion, would go on increasing, until there would be a necessity and a valid excuse, for a large fire-proof building. New York is deplorably deficient in medical and scientific libraries. There is no place where the medical scholar can consult such works as, from their cost or voluminousness, are not likely to be found in the library of any individual member of our profession. The New York Hospital Library is the only one of any magnitude to which access can be had. True, the Astor, and Society Libraries have, conjointly, a few hundred volumes of most excellent works, but the wealth of our medical literature is not by any means confined to the covers of so small a collection.

Again, a city such as New York, with its numerous charities, and their corps of medical officers, can furnish specimens of morbid anatomy, which would soon make a pathological cabinet second to none; while under the auspices of a large medical body, contributions to, and illustrations of physiology might be made which would soon place New York at the head—beyond dispute—of all American cities upon every branch of medical science. These, to us, are the wants of our city, and it is in the power of the Academy to supply them without laboring to obtain funds for monumental purposes, or groaning under the burthen of a heavy tax to support such an undertaking. If the learned Academicians can do without a library and a museum, it seems to us they can do without a Hall.

To close our own remarks, we venture to asert, that had the Academy at the present time a library worthy of the name, there would be no difficulty in obtaining from our merchant princes, and our State and city governments, a sum sufficient to erect as towering an edifice, and as glorious a memorial, as the most fastidious academician could desire.

The ludicrous side of the picture is so amusingly presented in the following pithy paragraph which we have clipped from a daily journal, that we have been tempted to append it to our own serious views. J. H. D.

Wise Academicians.—The Academy of Medicine has in its hands a surplus of funds amounting to the sum of $3,000. What to do with it puzzles them immensely. They might divide it into premiums for essays on practical subjects. They *might* expend it on a volume of transactions, publishing a large supply of capital papers which it is but charitable to presume must have accumulated during the many years that they have got out no transactions. They might give a magnificent dinner, to which every regular doctor in town, who has no other method of getting a living than the practice of his profession, and who has never cast a reflection upon the Academy, *might* be invited—where champagne should flow free as water at a sheep-washing, and, after one member had tweeked another's nose, break up in a row, and all hands go home with the troublesome cash disbursed. But our academicians are not that sort of men. They have an ambition to make a nobler use of their $3,000. They have determined to have an imposing Hall—not because they need one, but simply because it is a good thing to have. They have determined to build a worthy structure, which shall cost $90,000, to accommodate their little library (of about one hundred volumes), their little bookcase, their cabinet (of which the first specimen is yet to be put in pickle), and to furnish accommodations for their twelve meetings per annum, which are now amply accommodated in the University at a rent of $75. To get the Hall built will be a pleasant undertaking, we fancy. After it is built, we presume it will be self-sustaining. The stores underneath it and the great rise of property in the locality (which is yet to be chosen), without a doubt, will furnish a fund to pay the janitors and insurance bills, and perhaps give a surplus for such current expenses as dinner parties to distinguished visitors, prizes for extraordinary papers, &c., &c. Good luck to the ambitious academicians.

During the last Summer, we received a letter from a medical friend in the West, requesting us to send him Dr. Stewart's Prize Essay on Cholera Infantum. With a good deal of difficulty we obtained a copy, and not having previously had an opportunity to read it, we sat down to its perusal in the anticipation of a rare treat. The farther we read the more did our astonishment increase, that such doctrines should have been asserted by the author, and that they should have received the endorsement of the Academy of Medicine in this city. In truth, however, it is only the Committee who have endorsed it, the subject never having been brought up before the

Academy for discussion, although in fact, it has the credit of the endorsement of that body. What were the doctrines of the competing papers, who were their authors, or how many they were in number, we have no idea, but it seems to us, that they could not have maintained more incorrect ideas than those which this pamphlet enunciates. We had purposed to review the paper in order to discuss the topic, but while preparing what we wished to say, our western friend offered to review it for the Monthly, and we have the pleasure of laying his views of the disease before the profession in the present number. With his views we do not agree, dissenting especially from his commendation of the use of calomel, and desire to be understood, as not at all expressing our own views by publishing his article. Yet most of the points on which he dwells will be found tenable, and his experience in the disease makes them valuable. For Dr. Stewart, personally, we have only the kindest feelings, and we would gladly accord to the Academy the honor of having called out the best Essay upon the subject of Cholera Infantum, but it is, in our view, impossible to give them this credit. In what is here said or may be added, we wish to disclaim any other desire than that of an earnest, thorough discussion of the subject,—one which we consider of the greatest importance, and on which the ideas of practitioners are unnecessarily confused.

London, Sept. 12th, 1856.

To the Editor of the American Medical Monthly :—

Dear Sir :—After a pleasant trip in the *Baltic*, I find myself again in London, with one day to spare before continuing my journey to Vienna, where I expect to be by the 17th instant.

I spent this morning with my friend, Benjamin W. Richardson, whose researches, proving ammonia to be the constituent of the blood, which kept it in the fluid state, has won for him the last Astley Cooper Prize. The Doctor showed me some very interesting and really surprising experiments, clearly proving the existence of ammonia in the breath. Among others, the following is worthy of notice : A glass plate was covered with a few drops of twice distilled hydrochloric acid. I then breathed upon it about 65 times, always taking a full breath and expelling it with force on the glass-plate, which was afterwards held over a gaslight to evaporate the fluid and induce it to crystallize. We then subjected it to the microscope, and found the most beautiful crystals of hydrochlorate of ammonia, which

resembled—though better marked—the crystals of hydrochlorate of ammonia which were placed on another plate in order to compare their appearance with those formed by the breath on muriatic acid.

The existence of ammonia in blood, is shown in this way : A receiver not entirely filled with blood, was covered by a plate wet with muriatic acid. The interspace being filled with the vapor of ammonia, forms then the crystals of ammonia. According to Dr. Richardson, the quantity of ammonia may be ascertained approximatively, by using chloride of platinum, which will form with ammonia, yellow crystals, the weight denoting the quantity thus formed.

The existence of ammonia varies in the breath of different persons, according to the state of health, the same individual even, giving off sometimes more, sometimes less. More is given off fasting than during digestion, and the air last expelled from the lungs during each expiration, contains the greatest proportion. I take with me an extract of his researches not yet published, in order to communicate it to the Congress of Physicians at Vienna.

Little of importance is going on just now. Fergusson is grouse shooting in Scotland, and Sir James is watching the movements of the Queen in Balmoral ; Erichsen is rusticating at Scarboro, possibly trying experiments with the sponge on irrational animals, for he found out that he has to go down the throat, or suffer in the estimation of lovers of truth. The train by which I go to Paris leaves directly, and interrupts further communication for the present.

Yours, &c., I. GLÜCK.

We are happy to chronicle the continued healthful condition of our city. Thus far we have had no unusual sickness, and with the exception of the mortality among young children, the weekly reports of the city Inspectors have compared most favorably with any previous year. Some portions of Brooklyn, however, have been very sickly, and the deaths from yellow fever large, in proportion to the numbers attacked. The few cases of this disease which have been seen in this city, have been satisfactorily proved to have occurred in individuals who had been previously exposed to the atmosphere of the infected district of Brooklyn, or of the vessels lying at Quarantine.

It is always the case that during the prevalence of sickness such as yellow fever, our profession suffers severe losses ; death enters our

ranks and carries off some of our most active members. The history of the progress of yellow fever in our sister city during this Summer, forms no exception to this rule. From the few physicians engaged in attendance upon those sick, many have been prostrated, and two have succombed.

Dr. James Dubois and Dr. John L. Crane, of New Utrecht, partners in the practice of medicine, died within a few days of each other, of yellow fever, contracted while attending upon patients sick with that disease at Fort Hamilton.

From the first appearance of the fever they both devoted themselves unceasingly to the duties of their profession, answering the call of all alike, undaunted by peril and regardless of location or season, until finally, they too fell victims to the disease. D.

New Orleans School of Medicine.—The abundant climical advantages which the Charity Hospital of New Orleans furnishes, has doubtless instigated several of the attending Physicians and Surgeons of that Institution, to incorporate themselves into a School of Medicine, so as to make these advantages available in public instruction. Personally acquainted with most of the members of the Faculty of the new School, we are confident it will prove a worthy and generous rival of that already established as a part of the University of Louisiana, and that both, from a spirit of emulation, will succeed in offering better instruction than one alone, We wish the new School its just meed of success. D

Dr. John V. Lansing, of New York, has been appointed to the Chair of Physiology and Pathology, in the University of Vermont, which having heretofore been filled by other members of the Faculty, is now made a separate chair. D.

It was Dr. Ander's Aqueous Solution of Iodine that was first brought to our notice—a preparation which as he states, he introduced to the attention of the Faculty as early as December, 1854.

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ESSAYS, MONOGRAPHS, AND CASES.

Pleasures of a Medical Life to the True Physician. Portion of a Valedictory Address, delivered at the New York Medical College, March 4th, 1856. By DAVID M. REESE, M.D., LL.D.

No man ever succeeds, or deserves to succeed in any profession, unless from an intelligent and exalted appreciation of its rightful claims upon his attention, he regards it worthy of the best efforts of his mind and the warmest affections of his heart. A physician should love his profession with all the ardor of a youthful swain for his affianced bride; and to do this he must cultivate those habits of thought, and those associations in life, which will best satisfy him that Medicine as a science and an art, is worthy of his best affections.

Without claiming for Medicine either infallibility or perfection in its scholastic or systematic teachings; and without denying that the practice of our art is attended by difficulties, discouragements, sacrifices, and privations, which are often onerous and even repulsive, we may nevertheless urge equal imperfections, and even greater trials as inseparable from all the other forms of human knowledge, and every other avocation.

At this crisis in your medical history, then it is especially

important that you should be warned against that class of persons whose delight it would seem to be to magnify the duties, responsibilities, dangers, and difficulties, of the practice of our profession, as though they would purposely deter young men of sensitive minds and tender susceptibilities from entering into our ranks.

Now without detracting from the justice of such a view as far as it is just, we yet protest against the hyperbolical excess with which certain writers dwell upon the dark side of the picture they attempt to sketch. Depend upon it there are bright lights as well as dark shadows in a true portrait, and we would fain call off your attention from the latter, while we glance at the former, by selecting as our theme the pleasures of a medical life to the true physician, which we shall see far outnumbers all its pains; the latter being evanescent, and less than dust in the balance, when compared with the bright, joyous, and enduring pleasures which gild the horizon of the true physician, and render a medical life to such, one series of intellectual, social, and moral triumphs over himself and others, and should render him the happiest of mortals.

1. The medical life inspires and perpetuates in the true physician a conscious self-respect, which is one of the surest sources of happiness. He who enters upon the study and practice of our art, with a fixed purpose to excel in every department of his profession, will avail himself of all the accessible sources of knowledge now so abundant; and in his professional duties will see to it that he not only does to his patient "as well as he knows how," but that he has done as well by him as "any other man could do" in the present advanced state of the science and art. In such case, whatever may be the result, he will be able to "possess his soul in patience," and a consciousness of self-respect is to him an exceeding great reward. And even should he have no other recompense, as must ever be the case, preëminently with the young doctor, he will yet have the consolation to think with Boerhaeve, that "the poor are our best patients, for God is their paymaster," and charge the bill to the Good Samaritan. The very worst patients we ever have, are those from whom we expect a fee, and yet fail in collecting it, after trying to do so;

for in such cases we lose all reward here and hereafter. Still we may retain our self-respect and be happy, if we have never oppressed the poor, nor withheld from them our tenderest sympathy and highest efforts of skill in the hour of need. No man can ever be a true physician, who does not recognize the appeals of the poor as a legitimate and imperative claim upon his time and talents, for the disregard of which, he can make no compromise with conscience, but by the forfeiture of his own self-respect, and a sense of this humiliation would be fatal to his happiness.

2. *Reputation*, next to self-respect, is a rich source of happiness, and is the legitimate inheritance of the true physician. Such an one will be a skilful as well as a successful physician, and success is not only the true but the sure foundation on which alone a reputation worthy the name may be secured and retained. Without success in the practice of our art, no adventitious popularity, no other elements of influence, such as wealthy and powerful friends, can protract the possession of this jewel—professional reputation. Hence the true physician prizes it more than life, and guards it by diligence, fidelity, and vigilance to his patients, courtesy and manly frankness in his intercourse with his professional brethren, deference and respect for his worthy seniors of the fraternity, whose counsel he desires and seeks when occasion requires, and especially he will see to it, that he never forfeits his dignity before the public by any unworthy or degrading association ; nor descends to any act, which would dishonor his manhood or peril his character in the estimation of the community among whom he hopes to be regarded with respect. Such a man acquires an established character anywhere, which will withstand any amount of envy, jealousy, or malicious conspiracy among rivals, however numerous or powerful may be the array against him. No amount of influence by cliques or parties can move him from his steadfastness or disturb his equanimity, for he sits enthroned upon a rock of adamant, an established reputation. This is the secret which sustains men when called upon to endure the combined assaults of unscrupulous rivalry, the price of their success.

3. *Competence*, not wealth, is necessary to happiness, and so indispensable that without it, no pursuit, profession, or calling,

is worthy of cultivation. By competence, we mean a sufficiency of the good things of this life for ourselves and families, to place us in respectable and comfortable circumstances, beyond the necessity of denying ourselves reasonable indulgence in the luxuries of each revolving season, so far as consistent with health and temperance. Such a competence, every true physician may promise himself from the practice of his profession anywhere, in city or country; and this without any other contingency than those to which every other profession is equally exposed. And though on the part of young physicians, prudent economy will be necessary for a few years, yet the income from their practice will increase in a geometrical ratio, if they be true physicians—and this in the legitimate way, while retaining self-respect and scorning any equivocal or extra professional speculations.

4. *Friendships*, of the kindest and most endearing character are among the perennial pleasures of a medical man, and are cherished by many physicians among their chief sources of felicity. A casual introduction into the families of strangers by a professional call, has often resulted in an attachment by an entire family to him whose opportune sympathy was all he could offer in the hour of their bereavement, and which none but a medical man knows how to offer so well, for he has been schooled by his profession to this task. Many a young physician owes all his future fame and fortune to the friendships he has formed with his patients, by reason of his diligent and delicate attentions while they were languishing in sickness—friendships lasting as life. The multiplication of such friendships not only adds sources of mutual happiness, but serves indefinitely to extend the practice of the fortunate physician who is their object. To cultivate our social nature, while it is the dictate of our common humanity, is preëminently the duty and policy of medical men. An affected misanthropy, assumed dignity, and owlish gravity, and churlish or sulky demeanor, will prove effectual barriers to the respect or confidence of the sick and the well. "He that would have friends, must show himself friendly," is a saying as well worthy of remembrance for its truth as for its antiquity.

But apart from the considerations urged, the cultivation of

our social nature should be habitual until it becomes natural. Taciturnity, is a positive disqualification for our profession, for patients will not be communicative to a medical man if he seldom speaks, and then only in monosyllables. Much will be concealed that the physician ought to know, unless elicited by a social chit-chat, which may be condescending in many cases, but need involve no loss of dignity, nor degenerate into unbecoming familiarity.

Another source of happiness in a medical life springs from the gratitude of our patients, and often of their relatives and friends. Such is oftentimes the depth of this gratitude, that it becomes inexpressible; it is seen in the eyes overflowing with tears, it quivers on the lip in vain attempts to give it utterance, and even in the dying, when all our efforts have been unavailing, the last throb of the failing heart, the last uplifting of the glazed eye, the last pressure of the feeble hand, and the last word whispered with the expiring breath, all, all speak in unearthly language of overflowing gratitude for professional fidelity, sympathy, and tenderness, and the last prayer is often for blessing to the kind and faithful physician. Such a scene once witnessed, will extract the sting which the ingratitude of others may have often inflicted, and repay a thousand fold, for the heartless failure to appreciate and reward our services by a thousand ingrates. Such experience is that of every true physician; and if you are such it will be yours; and you will feel that

> "The chamber where the good man meets his fate,
> Is privileged beyond the common walks of virtuous life,
> Quite on the verge of Heaven."

To be the instrument, as every true physician often is, by the exercise of his art and the interposition of his skill, in rescuing from sudden danger and impending death, a father, mother, husband or wife, son or daughter, and restoring peace and joy to a whole household at the trying and critical moment when hope had well nigh fled, is often the privilege of the true physician.

So abounding and even excessive is the gratitude often felt and exhibited by whole families, that the physician himself is constrained to check its expression, by calling upon all to "give

thanks to God, who has revealed such things to men," lest the creature should be worshipped instead of the Creator. Such will be your experience if you become true physicians; you, too, will witness the triumphs of medicine over disease in your own hands, and the parents whose only child you have restored to their arms, even after hope had fled and despair had well nigh prostrated the fond father and almost burst the heart of the tender mother, will overwhelm you with tokens of their gratitude; and that child will be taught to lisp your name, as the chosen instrument sent by Providence just in time to conquer disease and ward off the shafts of death.

Tell me not then that a medical life is *all* care, and pain, and toil, and hardship, and privation; for there are bright lights and joyous pleasures, ever and anon, in the experience of the true physician, with which a stranger intermeddleth not.

But I charge you, my junior brethren, that these exquisite pleasures of a medical life are reserved for the TRUE physician only.

Case of Wound of the Internal Jugular Vein successfully treated by ligature. By ALEXANDER B. MOTT, M.D.

Amongst the most painful cases that fall under the notice of the medical practitioner, are those in which he is called to render his assistance when life is seemingly no more. In most instances they are beyond the reach of aid. The wretched subjects of them—the victims of their passions, their intemperance, or their misfortunes—have generally sought and found relief in another world than this, and all that the medical man usually can do, is to cast his eye helplessly on the remains of fallen and inanimate humanity. Deeming his presence useless, he generally hurries from the scene. There are instances, however, in which science and perseverance can render service when all is apparently hopeless; and of such a nature is the case whose leading features I am about to record:—

About half-past eight o'clock of an evening in the early part of January, 1855, I was sent for in great haste, to see a man who had attempted to commit suicide by cutting his throat with

a razor. I immediately followed the messenger and arrived at the place about fifteen minutes after the act had been perpetrated.

The patient, William H——d, (for obvious reasons I withhold the name), a young man of twenty-three, residing in S—— Street, had made the attempt while laboring under an attack of delirium tremens, induced by that over-indulgence in unwholesome liquids, but too common in our clime; and when I first saw him, he was lying with his face towards the floor, his father leaning over him and holding some cloths saturated with blood around his neck. Beneath him was a pool of blood, the carpet being positively soaked; and on entering the apartment I was greeted with the father's exclamation, that "It was too late, his son was dead," &c. Anxious, however, to ascertain the fact and examine the wound, I seized the neck, and passing my fingers into the incision, placed them so as to fill up the gash, which was fully as wide as three of them; requesting at the same time a police officer, who was present, to turn him on his back, so that I might be more at liberty to follow the course which I designed to pursue.

This being done, I had an opportunity of making an ampler inspection, and ascertained that the wounds were two in number: comprising one large incision on the right side of the neck, extending from the left side of the trachea to the ear, and another smaller about an inch in length, dividing the integuments on the left. The former alone was important and was very serious,—laying bare the trachea, the common carotid artery, and severing the internal jugular vein, the sterno cleido mastoid muscle and external jugular vein. The artery was under my fingers, but no pulsation was perceptible, and I became apprehensive that the old man's words were only too true. Feeling, however, a certain degree of heat in the body, and having great confidence in artificial respiration, I resolved to try what could be accomplished by its agency. Placing my mouth against the patient's lips, and pressing back the larynx so as to close the œsophagus, I breathed into his lungs, and with the aid of those around me, successively evacuated them by pressure on the chest and sides. After keeping this course up for fifteen minutes, I cautiously examined the wound by gradu-

ally raising one finger after another to ascertain what vessel was out; and on removing the forefinger, observed the deep jugular vein, an inch of which was perfectly bare, fill with blood. This affording a ray of hope, I, without removing my fingers, continued the artificial respiration, and on the elapse of other ten minutes, had the satisfaction of finding a slight pulsation in the carotid artery. Encouraged still more by this, I persevered with my inflations, and at the end of the three-quarters of an hour, was yet more gratified by feeling a feeble pulsation at the wrist. Natural breathing was at the same time restored, although no consciousness was yet visible on the part of the patient; but he had evidently so much revived that I resolved on now carrying out the second part of the treatment which I had determined to adopt.

Having still retained my fingers in the wound, I now carefully withdrew the upper one, but found no blood flow. I next pursued a similar course with the lower one, and it was attended with the same result. From this I inferred that the incision must be under the middle finger, and raising it with much precaution, I discovered not only the seat of the wound, but also that a considerable piece had been actually cut out of the vein.

With my left hand, which was the one disengaged, I then took from my pocket-case an eyed probe, bending it in the shape of a hook, and a double ligature being passed through it, inserted it under the wounded vein. By keeping one finger on the upper and another on the lower portion of the vessel, the opening could be easily seen, and I consequently, without any unusual difficulty, succeeded in placing one ligature above, followed by a second below it. Several professional gentlemen, in the meantime, had entered the room, and judging from his cadaverous appearance, expressed an opinion that the patient could not survive. It was useless, they said, to attempt anything whatever; and after witnessing the incision in the vein, which I took an opportunity of showing them when the vessel was secured, they retired, evidently wishing to avoid the inconveniences of a coroner's inquest, which is always attended with an unpleasant loss of time. Left again to my own resources, I next endeavored to make the patient swallow some stimulants,

which he did with difficulty, vomiting shortly afterwards, but not until he had taken a considerable quantity. The effect of this, however, did not prove so serious as I had anticipated, though he remained several hours in a very low condition. He was still unable to articulate, but by means of signs he contrived to express a desire for water instead of brandy, and again relapsed into a state of semi-stupor.

It was now about half-past two in the morning. During the whole time I had never quitted him, but was now rewarded for my anxious labors and suspense, by at last hearing the patient speak. He called for water and addressed several of his friends by name. The immediate danger being thus evidently passed, I dressed the wounds, drew them together with stitches and adhesive straps, placed him in bed with warm applications to his feet and body, ordered strong beef tea and brandy to be administered freely, and finally at half-past three in the morning, left him sleeping quietly.

On visiting him the first day after the operation, I found him delirious, with a small pulse of 110. I consequently prescribed him morphine.

On the second day, the pulse had fallen to 105, but the delirium still continuing, I repeated the anodyne in larger doses.

On the third day, he was still delirious, though with a pulse less frequent and fuller. Morphine in large doses was still continued, and on the fourth day, I dressed the wounds. The delirium now was sensibly less, but on the fifth, it still was observable, though the pulse had progressively diminished in frequency.

On the sixth, too, when I again dressed the wounds, he was yet slightly delirious, and exceedingly restless. With regard to the wounds, I may add, that originally they appeared to have united by the first intention, but on the second dressing, I found they had opened in consequence of his great restlessness and constant tossing of the head from side to side. I subsequently dressed them with lint, and they healed kindly by granulation ; the ligatures detaching themselves on the twelfth and thirteenth days ; from that date his recovery was rapid. Eventually he was entirely restored to health, though he remained for sometime so timid, that it was with the greatest difficulty I

could persuade him to leave the room. This, however, was obviously to be attributed to the consequences—fear of ridicule, exposure, &c.—that might possibly arise from his rash and unfortunate attempt.

The preservation of this man's life, I may remark, was exclusively due to perseverance in producing artificial respiration. An impulse was thus communicated to the small portion of blood still remaining in his body, but incapable of itself, to sustain life for any lengthened period; and nature, which is always ready to assist our efforts, rapidly reproduced what had been lost.

I have had several opportunities, I may further mention, of testing the efficacy of artificial breathing, and am satisfied that in many cases life might have been restored by its agency, while death has often ensued in consequence of the individual being allowed to remain unaided after a superficial and unsatisfactory examination.

In two instances of suspended animation, of which I am cognizant, I have observed similar results, after the pulse had ceased to beat and apparent dissolution followed from the action of chloroform.

The first was that of a boy, about six years of age, on whom I was performing the lateral operation for stone. The administration of the anæsthetic had been entrusted to a gentleman, who was accustomed to apply it; but he had evidently given it in a dose unduly large, for, while in the act of introducing the forceps, I looked at the boy and noticed that the action of the thorax had ceased. I consequently felt for the pulse, but could find none. Discerning the danger, I immediately, without removing the instrument from the bladder, applied my lips to his mouth, inflated the lungs, and by pressing upon the chest, expelled the air. This I repeated several times, until becoming fatigued through my awkward position, I requested an attendant private pupil, to breath into the mouth while I retained charge of the chest; several gentlemen meantime had examined the pulse, and one of them—a veteran in the profession, remarkable for his caution—had even put on his coat with the intention of quitting, remarking "there was no chance," evidently thinking that it would be better for him to avoid the

pleasure of an encounter with the coroner. He had scarcely, however, got further than the door, when I recalled him by stating that I was about to extract the stone, and this being an inducement which he could not resist, he returned to witness the completion of the case. The child had in the interval recovered, in consequence of the artificial respiration to which I have alluded, and the operation was finished without further difficulty, and the patient ultimately recovered.

The second case to which I refer, is that of a lady, who was operated upon for hemorrhoids, by an eminent surgeon of this city. In this instance, I administered chloroform, and requested a professional gentleman present, to keep up the effects, which was done very judiciously, while I assisted in the operation. This was performed with the utmost care, and on removal of the handkerchief the pulse was good and breathing perfect. Chancing shortly afterwards to take hold of the wrist, I discovered that pulsation there had suddenly ceased, and respiration at the same time became suspended. The operator's attention was called to the subject, and he immediately remarked that the patient was dead. My previous case had taught me an impressive lesson, and I accordingly had recourse to similar means. The result was the same,—equally successful; the only difference between the two cases being, that in the former the disagreeable consequences had ensued from the over anxiety of the administering party to witness the operation, causing him for the moment, to overlook the condition of the patient, while in the second, they resulted solely from the depressing power of the anæsthetic upon a frame greatly debilitated by frequent losses of blood.

To revert for a moment to the original subject. Prof. John George Morgan, of Geneva, in the *American Journal of Medical Sciences*, for 1836, (vol. xviii, page 330,) records a somewhat similar case. The patient in this instance was an unhappy convict who attempted to escape from incarceration for life by suicide, and, after first endeavoring to hang himself, had afterwards cut his throat. With a professional callousness, which I hope is rare, the Doctor tells us that though the man was cut down with "face pale, pulse feeble and irregular," he considered the first attempt a *sham*, and thus took no steps for avert-

ing the more desperate and nearly successful second, in which the unfortunate prisoner divided "three-fifths of the deep jugular vein." Dr. Morgan tied it; but speaks of troublesome effects as apt to flow from such operations as the application of ligatures to veins. I can only say that I have been obliged to cut out a portion of the deep jugular vein in the course of removing tumors from the neck, and have tied it without any inconvenient results whatever; the ligatures coming away sooner than in the case of any artery.

So far as I am aware, there is only one other analogous case recorded in surgery. Dr. Giraud, in Sedillot's *Journal Generale de Medicine, &c.*, states the case of a French surgeon, who in 1814, at the Military Hospital of Toulouse, tied the trunks of the common carotid artery and internal jugular vein, both of which had been wounded by a musket shot. Up to the sixth day after the application of the ligatures no unfavorable symptom had occurred; but the final result of the operation is not mentioned either in the work itself or in *Cooper's Surgical Dictionary*, which quotes it.

209 Tenth Street, East of Second Avenue.

On the Influence of Sea Life and Warm Countries on the Progress of Pulmonary Phthisis. By Jules Rochard, Second Surgeon-in-Chief of the Navy at the port of Brest.

(*Concluded from page* 44.)

I. *Western Coast of Africa.* Senegal is the warmest country in the world, and that which, at the same time, has the most variable temperature. The year is there divided into two seasons; the one warm and dry, the other wet and less burning. The East wind prevails during the former, and brings with it the burning dryness of the sand of the desert. The West wind follows it, and bears with it the freshness and dampness of the sea which it has crossed. All insalubrious influences are there united. Burning heat changes such that in less than five minutes the thermometer falls eight or ten degrees when the sea wind follows the land breeze; alternations of dryness

and moisture, torrents of rain, tornadoes,* and above all, immense marshes, which with their miasms, fill the air with the germs of the most destructive fevers. Intermittent fever of all types, hepatitis, dysenteries, nervous colics, these decimate Europeans. It kills, each year, one soldier in seven ; in Sierra Leone 483 out of 1,000, or nearly 1 in 2 ; at Gambia, mortality is yet greater. In the detached posts, at Podhor, at Dagona, at Boquel, at Acinie, at Grand Bossam, it is greater than at St. Louis. The Gaboon, although situated under the equator, appears, on the contrary, to be more healthy. This is, at least, what was observed in the vicinity of the naval hospital of that station. Is it surprising that phthisis should be rare in such a country. It is there smothered by the frightful mortality of endemic diseases. These too rapidly destroy Europeans, says Thévenot (*Traité des Maladies des Européens, dans les pays Chand specialement au Senegal*), to permit us to appreciate the progress of an affection so frequently slow, like phthisis. It must not be believed that it is as rare as would be thought from the table which is given, and which is always brought forward when Senegal is spoken of. Out of 952 patients, it does not mention one with phthisis. From a table prepared by myself, it is shown that, at the naval station, there were, in 1846 and 1847, among 3,144 men, 148 deaths, of which 6 were from phthisis, or 1 in 24.66 ; and 126 were sent home, of which 14 were on account of phthisis, or 1 in 9. Another table also shows that, of 134 sick men belonging to the garrison, and sent back to France at different times, 8 were for the same reason. This proves that, without being frequent, phthisis still has some victims among Europeans whom the endemic affections spare. At Sierra Leone, the English count 1 phthisical in every 485 effective men. Bronchitis is there very common, as has been proved by MM. Raoul and Foussagrives,

* The tornadoes may give an idea of the changes of temperature in equatorial regions. They are preceded by a profound calm, during which the heat rises to such a degree that the air seems to be irrespirable. Great clouds slowly rise from all points of the horizon, and color with a sombre tint the threatening stillness of the sea. Then, when the storm blows, when the winds break free in their circular movement, the sensation of cold becomes so acute that the thickest clothing scarcely protects Europeans, and the blacks quake with cold in their almost complete nudity, when they have not taken the precaution to light a fire, as is their custom before a tempest.

surgeon majors to the station, at different periods; and it is remarkable that it is most common in the warmest months of the year. Pneumonia and pleurisy are rare among the whites, but very common among the natives. If, now, we desire to know what is to be attributed to the score of emigration, I will quote one of the men who has known Senegal best, and whose opinion has had the most weight with us. "Far from modifying it beneficially, we have seen, in this country, many subjects predisposed to pulmonary tubercles, in whom phthisis has been kindled and proceeded with a sad rapidity. We have lost two from it, and sent seven back to France; so that I do not believe it is any benefit to men of such a constitution to live in these climates, at least if they have any symptoms of phthisis. Tubercles are very common in the native population, and phthisis causes a large portion of the deaths." (Raoul's Report to the Minister.) Foussagrives has given the same opinion. "Always observing that phthisis is produced in both cases without special influences of the climate, I cannot deny to these a very decided action in the evolution of tubercles. Phthisis originates less frequently on the West coast of Africa, but it develops itself much more rapidly than it does in France." But this is quite enough concerning a country to which I do not believe a phthisical person ever dreamed of going in search of health.

II. *The India Seas.—Isle of Bourbon and Isle of France.*—Lying within the limits of the torrid zone, these islands offer to the European the most beautiful climate in which he can dwell. Intermittent fevers are very rare there; hepatitis is seen but little; dysentery is somewhat common, but not severe. In return, the affections of the respiratory passages are very frequent there. The strong breezes which prevail during all the pleasant season, the freshness of the nights, the abrupt changes of temperature, frequently cause bronchitis, pleurisy, and pneumonia. Pulmonary tuberculization makes rapid progress there. I was unwilling to trust to my recollection, and applied for information to M. Lepetit, second physician-in-chief, who has just left this colony. These are the conclusions upon this subject which he has just sent to me:

"Phthisis is less frequent at the Isle of Bourbon than in

Europe, but it progresses more rapidly there. After the tuberculosis has commenced, it then runs on with frightful rapidity, and destroys the patients much more promptly than in France. This opinion is generally admitted in the island, and physicians advise a return to Europe as soon as the signs of softening tubercles appear. Diseases of the air passages are less common in the hot season. The windy season, by the refrigeration which is produced by them, frequently produces bronchitis. The city of St. Paul, by its position, which is sheltered from the East winds, has a more equal temperature, which is constantly higher by *one* or *two* degrees than that of Saint Denis. Residence in it is more favorable to persons predisposed to pulmonary affections. The physicians of the colony send their patients there. The eastern or windy part, exposed to the breeze generally, is, on the contrary, most unfavorable to them. In short, what is most striking in this disease at the Isle of Bourbon, is its extreme rapidity. I observed in my service two remarkable cases of it, in soldiers of the station, sent to the hospital for simple bronchitis. In six weeks, or two months, they passed from fair *embonpoint* to the most complete emaciation and death. The autopsy showed us a well of pus in both lungs."

The ships which return from Bourbon always bring back a large number of phthisical patients. Witness the corvette *La Nièvre*, which, on its return to France, in 1837, was obliged to land its sick men at the Cape, to give some days rest to the phthisical which she had on board, three of whom died during the passage from the Cape to Brest.

Among the victims to the climate I count one of my relatives, a young lieutenant of the marine service, all of whose family had most excellent constitutions. He started in 1851 for Bourbon, in the most perfect health, and died on the eighteenth of October of the following year, at the hospital in St. Paul, killed in a few months by a phthisis of which he had, before his departure, given no symptom.

At the Isle of France, the same meteorological conditions produce the same results. Phthisis is very common there, and goes on very rapidly, according to MM. Lesson and Follet. We have seen that, in the English troops, it attacks one soldier

in every 140, according to Mac Tulloch. Its ravages would be still more marked, if we quote Clark, since of 1,000 men it destroys 3.2, while the whole mortality does not exceed 28.2 in 1000. Phthisis would be, to the whole mortality, as 1 to 8.81, and it would destroy 1 soldier in 312.

Notwithstanding the salubrity of these two islands, and the attractions which a residence in them offers, they should be forbidden to phthisical persons.

India.—Pulmonary tuberculosis is very common at Bengal. It has a marked share in the frightful mortality of Europeans —a mortality such that, of the English and Portuguese families, according to Doctor Twinning, not a single individual of the third generation is living. Phthisis, says this physician, is more certainly and more rapidly fatal in Bengal, than in England. Every European who arrives in this country with the germs of phthisis and its precursory symptoms, dies of the disease much more quickly than in Europe. I remember, in fact, to have seen, in 1842, at the hospital of the Medical College, at Calcutta, a large number of consumptives. The disease is not rare on the coast of Malabar, or the coast of Coromandel.

Mr. Collas, chief surgeon of the navy, having for many years the direction of the medical service of this colony, ranked it immediately after cholera on the list of endemic diseases. It is, he says, a terrible infliction to the Indians, and especially to the mixed races. It is very common, not only at Pondicherry, where there is no paludal endemic, but in the countries of India, where this paludal endemic prevails and is characterized by splenic engorgements. Not only is phthisis common in India, but persons affected by it who arrive there, find their disease rapidly aggravated. No locality can afford any shelter from this terrible disease,—not even Pulo-Pinang, in the Straits of Malacca, which is, however, considered a sanitarium for consumptives.*

Mr. Collas quotes, in support of his opinion, that of Doctors James Renold, Martin, and Allan West. The latter, especially, expresses himself in so positive terms, that I cannot help repeating this quotation: "I have seen so many misfortunes come

* Cases observed at Pondicherry.—*Colonial Review, May*, 1852.

upon families, and such losses to the public service arise from false ideas, which prevail concerning the benefit which scrofulous persons and consumptives may receive from a residence in tropical countries, that I think myself bound to say that, in my opinion, Bengal is as bad a place as can be for these diseases. I have had physicians, clergymen, and officers, express to me their astonishment at the fatal turn which has been taken by those diseases, that they had expected to see cured here. I have seen young and beautiful ladies carried off with frightful rapidity. I have seen young soldiers who, if care was not taken to send them back to die in their own country, would become entirely unfit for service. I have visited Penang and Singapore, and I cannot admit, after my observations in those places, that a residence in islands can at all retard the progress of phthisis."*

At Madras, according to Dr. J. Annesley, affections of the respiratory organs are rarely observed. Of 9,553 Europeans, 14 only died of phthisis, which gives the very small proportion of 1 in 682. In 1841, of 17,420 admissions, the proportion of deaths from phthisis did not exceed 14, according to Mr. Boudin.

At Ceylon, on the contrary, phthisis causes the death of 6 out of every 1000 Europeans; a large proportion, but less than that of the general mortality, which rises to 142 in 1000, more than 14 in 100.

In conclusion, the climate of the Indian Seas is unfavorable to tuberculous persons. We have spoken of a ship, *l' Isère*, which, out of 154 men, had lost 5 from phthisis at the end of one year's cruising in those latitudes. On board the frigate *la Jeanne d' Arc*, which is now there, Mr. Mairet has seen three cases of the disease. Its progress has been so rapid that two of its subjects have been sent back to France in the most alarming condition, and the third appears unable to bear the voyage, and has been left at Pondicherry. On the same station, on board the *Caiman*, an apprentice attacked in the same way, had such alarming symptoms that he was sent back to Europe by the Isthmus of Suez, for fear that he would die

* *Pathologica Indica*, by Allan West, p. 128.

during the passage if he was obliged to follow the ordinary route.

III. *South America.—Peru.*—I have but little to say of the vast countries situated on the western coast, on the two slopes of the Cordilleras. Bolivia, Peru, and Columbia are, except some points on the shore, Guayaquil for example, healthy countries of elevated but uniform temperature. The South and South-southwest winds almost constantly prevail on the coast of Chili and Peru. Rain is almost unknown in this country, but it is replaced by thick fogs, which fill the air during the whole year, and produce a warm and damp climate eminently adapted to the development of vegetation. The thermometer rarely goes below 15 degrees in Winter, and never rises higher than 25 degrees in Summer. The year is there divided into four seasons. The Summer, from January to March, offers for observation severe diarrhœas, dysenteries, somewhat severe hepatitis, eruptive fevers, some cases of sporadic cholera, and affections of the chest, which are frequently epidemic, and which sometimes make great ravages in the mountains. The Autumn, from April to the end of June, produces intermittent fevers, which assume most frequently the tertian type, and yield readily to the sulphate of quinine. The nights at this season are cold and damp, and yet chest-diseases become more rare. Winter extends from July to October. The mean temperature is then from 14 to 15 degrees. Pleurisies, pneumonias, and acute articular rheumatisms are then very frequent. The corvette *la Sarcelle*, in the course of the cruise which I have cited, was, at this time of the year, invaded in the roadstead of Callao by an epidemic pneumonia, which, in the month of October alone, attacked 14 men out of 90 which made up the crew, and 2 died of it. As to phthisis, I can cite but a single fact, the case of the man Prigent, who died in two months of an acute phthisis, in the roadstead at Callao. In the impossibility in which I find myself, of answering the question directly, I have thought it better to take a round about way, and to seek in the climate and the diseases which prevail there for the necessary elements to establish a presumption. I believe that in cases of doubt one would be little tempted to direct consumptives to

this country of fogs, in the pathology of which diseases of the chest play so important a part.

Brazil.—Brazil, which forms with the countries of which we have just spoken, the portion of South America within the torrid zone, does not leave us in the same uncertainty. It is assuredly one of the most beautiful countries in the world. I do not know, for my part, anything more admirable than the roadstead and environs of Rio Janeiro. Well, notwithstanding its beautiful sky and luxuriant vegetation, notwithstanding the uniformity of its temperature, which never rises higher than 25 degrees R., and never goes below 10 degrees R., Brazil is one of the points on the globe where phthisis rages with the most intensity. "Pulmonary phthisis," says Doctor Sigaud,* "makes as great ravages in Brazil as in Europe. We can venture to calculate that, in the maritime cities, it destroys a fifth part of the population." This fact is so well-known that there has been established at Rio Janeiro a hospital especially for consumptives. Out of 1,225 patients admitted to it in the years 1840, 1841, 1842, there were 952 deaths. In an equal number this disease makes as great ravages among the whites as the blacks. The mortality is greatest among women. According to Dr. Pereira De Costa, it rages more fearfully among the young sailors. At the Marine Hospital of that city, they reckon, ordinary years, that phthisis causes a third part of the number of deaths.

The other parts of Brazil are no more favored. In the South, says Dr. Jubim, at Saint Catherine, at Rio Grande, at Coiritiba, it holds the first rank. The recruits of the navy or army suffer great losses from the ravages of small pox and phthisis. Among the poorer class this latter disease is set down for a fifth part of the mortality, and a seventh part of those in hospitals. In the North, diseases of the chest are very common. At Para, they rapidly run into marasmus. "At Bahia, phthisis is fearful from the rapidity of its progress; it is ranked as the first of acute diseases. I have seen patients die of it in less than two or three months."† It is the same in

* *Du Climat et des Maladies du Brésil.* Paris, 1844.

† Justiniano da Sylva Gamez, agrégé de la Faculté de Medicine de Bahia.

the great cities of the interior. At Brazil, as at the Isle of Bourbon, as in Italy, and in the South of France, as is the case everywhere that it assumes these fearful characters of frequency and rapidity, they believe in the contagiousness of phthisis. Physicians themselves appear to share in this opinion.

Death usually occurs after abundant expectoration or colliquative sweats—a termination more frequent among the whites, and especially the women, than among the blacks. Sometimes, also, abundant hæmoptysis closes the scene. Doctor Sigaud, from whom I borrow these particulars, recommends highly a residence in the mountains. He recommends to patients the small Swiss colony of Morro Quéemado, and of Cantagallo, situated at a short distance from Rio Janeiro, in an elevated region. Those sick at Bahia go, with benefit, to the high lands called Catingas. He also recommends sea voyages, and cites two cases in support of it. But we can easily conceive that one ought, by all means, to escape from such a country, and that the sea cannot offer to consumptives worse conditions.

Let us say, finally, since we have touched on this question, in speaking of Tahiti, that intermittent fevers are very common at Brazil, that they have assumed a more grave character within a few years, and that they put their stamp on the entire pathology of the country. It appears that, in Brazil, consumptives are never benefitted by being in marshy regions. Those whom Mr. Sigaud sent to Lagoa de Freytas, to Iguassu, to Surnhy, have not been benefitted by the change.

I do not need to add that a residence in Brazil is one of those which must be most decidedly forbidden to tuberculous persons.

Guiana.—Guiana is a flat country, watered by a multitude of streams, covered with marshes, surrounded by a girdle of mangroves, and subject during six months of the year to deluging rains. The temperature, lower than that of Senegal, Madagascar, and India, varies from twenty-four to twenty-eight degrees. One would suppose, in such conditions, that intermittent fevers would be the foundation of its pathology. They present, in general, less grave characters than those of Senegal

and Madagascar, but they are of a deplorable tenacity. This can be shown always to be the case among the soldiers and the overseers of the convicts, when they return to France on sick leave. They are especially very common at the detached posts. Acute diseases of the respiratory organs are not rare there. "Notwithstanding the elevated temperature of Guiana and Cayenne, pulmonary phthisis is somewhat common there, although less frequent there than in France."*

Of a body of 1018 soldiers, there were observed at Simmari, 133 affections of the chest, and at Cayenne 88 out of 600 (Sigaud). Out of 3,340 patients, treated at the hospital at Cayenne, during the year 1853 and the first six months of 1854, 168 were admitted on account of acute bronchitis, pleurisies, or pneumonias, 48 for chronic bronchitis, 7 for hæmoptysis, 6 for confirmed phthisis. Five of these consumptives died; one of them, a soldier, within three months of his arrival in the colony. Of 121 deaths, occurring in these eighteen months, phthisis stands only 1 in 24.2—a proportion little smaller than that which we have above given, which includes only the year 1853, but which is explained by the large number of consumptives sent back to France; since, out of 368 sick men returned from Cayenne at different periods, 56 were suffering from phthisis. In unhealthy countries it is necessary, we have said, to take less account of the mortality than of the effective men, and this latter mode of comparison gives, for the year 1853, 1 death from phthisis to 165 soldiers—a proportion four times and a half greater than that which Benoiston de Chateauneuf gives for the army.

As to the sick persons who arrive there, I have already quoted the opinion of Sigaud; a consumptive himself, he has no occasion to congratulate himself on his residence in Guiana. I heard him at Cayenne, in 1838, much regret the climate of France, and sigh for his return. His health was, in fact, improved there, but he did not any the less yield to his inexorable disease. Dr. Laure, who now occupies the same position, has recently given similar advice on the impropriety of emigration to Guiana. "Thoracic affections," says he, "are common in

* Chervin Lettre à Mr. Latour.

cold countries, are soothed in temperate countries, and gallop under the equator, where the air is insufficient."

With regard to the West Indies, the author has added little to what he has above said on the subject of mortality in the naval infantry.

Extra Tropical Climates.

I. *Spain.*—Spain does not appear to be adapted to consumptives. "Phthisis is not rare in the southern part of the Spanish peninsula, notwithstanding the softness and constancy of the climate."* "It has also been proved that pulmonary consumption prevails extensively in Spain and Portugal, especially in the capitals of the two kingdoms."†

Cadiz.—At Cadiz, the only place in Spain which I have visited, acute diseases of the chest are common and serious. The geographical position sufficiently explains it. Surrounded on all sides by the sea, it is swept by the ocean winds which cool the air and fill it with moisture, while the strong easterly breezes which come from the land and alternate with them, produce a dry and oppressive heat. Ships stationed there, always report among their sick, a pretty large number of acute affections of the respiratory passages. The brig *Endymion* in 1835 and 1837, suffered from an epidemic influenza, and sent back to France ten men in advanced phthisis.

Gibraltar.—As to Gibraltar, all opinions agree to such an extent that it is useless to cite them. Phthisis causes great losses in the English garrison. It is, says Mr. Hennen, the true endemic of this rock. Out of 60,269 soldiers, who have passed nineteen years there, they report 394 consumptives, 1 in 178.‡

The eastern coast has the appearance of better conditions, but we have not proofs sufficient to make us believe it to be preferable to other points of the Mediterranean, and, in the opinion of all, especially in that of Andral,§ phthisis is one of the most prevalent diseases of this coast.

* Chervin letter to Mr. Latour.

† M. Andral, additions to Laënnec.

‡ Mr. Tulloch, *op. cit.*

§ Laënnec's treatise on Medical Auscultation, additions by Andral.

Baleares.—The Balearic Islands ought perhaps to be an exception. The city of Palma, at Majorca, appears to me, to fulfil a part of the conditions which I have enunciated. It is situated at the head of a bay opening on the southern side. It is sheltered from the North winds by high mountains. The temperature is somewhat elevated but uniform; the nights there are not too cool. During the stay which the Mediterranean squadron made there in 1846, there was but little sickness in it. When I visited the hospital at Palma, it contained but a small number; the greater part being women affected with syphilis. It will be supposed that with such premises I shall not venture to recommend a residence in it to consumptives. I have only desired to draw attention to a point little understood, but which deserves to be.

II. *France.—Marseilles.*—The South of France will not detain us a long time. It presents few localities in which a residence is suited to tuberculous persons. "Avoid Marseilles, and all the Mediterranean coast; avoid Montpellier, Pau, Bayonne," says Andral. At Marseilles, according to D. Raymond,* the dryness of the air is excessive, and the prevalence of the northwest wind, which is ordinarily very cold, makes affections of the chest prevail there. Phthisis is the most common disease after acute diseases; women are more subject to it than men. It is principally in the Summer that it begins and that it terminates. Out of *nine* adults *two* die of it, and out of *twenty-three* adults *ten* die of diseases of the chest. Doctor Brunache has proved, from the registers of the Hotel Dieu of that city, that they show *one* consumptive in every *four* deaths.

Toulon.—In this respect, Toulon is in the same condition with Marseilles. The northwest wind blows there with still more violence, and causes so sudden depressions of temperature and such a dryness, that its effects are felt in closed rooms.

We have before pointed out the number of consumptives who died at the Marine Hospital in 1853 and 1854, and yet this proportion, large as it is, is diminished by the epidemic of cholera which decimated the population in the course of this latter year. Cannes and Ciotat, are in the same category.

* Memoirs of the Royal Medical Society, t. ii, p. 128.

Montpellier.—The city of Montpellier, though farther from the sea, does not offer to tuberculous persons any safe asylum. One of the Professors, who have made the Faculty of this city famous, Baumes, thus expresses himself with regard to it: "The North wind most commonly prevails during the Winter and Spring. Its violence is frequently very uncomfortable, because it is very cold from having passed over the snow on the neighboring mountains. It is necessary to have a healthy chest to resist its influence."* According to a topography, published in 1810, by Muret, out of 2,750 admissions, in 1763, at the Hotel Dieu of that city, there were 154 deaths, of which 55 were from phthisis,—more than a third.†

Aix.—The city of Aix, formerly much frequented by consumptives, does not appear to have merited its reputation. It blows there as much and is at least as warm as at Marseilles. *Pau* is no more favorable, according to MM. Andral and Bricheteau.

Hyères.—The only point fit for them in the South of France, is the little town of Hyères, and not the Islands, which are only uninhabitable rocks. Hyères is but four leagues from Toulon, but it is separated from it by a chain of hills, on the southern slope of which it is built, and which protect it from the mistral which, however, blows strong enough here. Somewhat elevated, sufficiently remote from the sea, to have nothing to dread from the saltness of the coast, lost in the midst of orange trees and hedges of bay roses, it makes the most charming residence which a patient can choose. Mr. Barth‡ has set forth its advantages with such talent, that one can scarcely add anything to the portrait which he has drawn of it. Affections of the respiratory apparatus, pulmonary catarrhs, chronic pleurisies slow to disappear, asthma, pulmonary emphysema, ought evidently to improve in this mild and pure air. As to pulmonary tubercles, I confess my confidence does not go so far as that of Mr. Barth. The cemetery of Hyères (he could have assured himself as I have done) is filled with consumptives, and death

* Treatise on pulmonary phthisis. Paris, 1805, t. i, p. 237.

† Mr. Bricheteau, *loc. cit.*

‡ Notice topographique et médicale sur la ville d'Hyères, Paris, 1839.

spares only a small number of those who seek there a refuge. The physicians of the country also, acknowledge this. "A large number of consumptives come there every year," say Mr. Andral, "not to find there a complete cure of their disease, but a less or greater prolongation of their life." This appreciation is unfortunately too true.

III. *Italy.—A. The Northern Portion.*—Italy is more favored than France in respect to climate. It offers to patients many more resources, it has many more charms for them. It is in general towards these cheerful countries that they direct their steps. It is the refuge for the consumptives of all countries, but one cannot safely advise them to remain there absolutely. Many of the cities, especially among those up the coast, are more unfavorable to them than the centre or even the North of France.

Nice.—This is one of the points which they prefer, and yet it removes them from the resources and pleasures which a large city offers. Nice is not comparable to Hyères in a hygienic point of view. Mr. Barth has observed, that it is near to the Alps, which are only four leagues distant; that it is situated on the border of the sea, and consequently is more exposed to rains and fogs; that it is crossed by a torrent which keeps it damp; and that the temperature is less elevated and less constant, than at Hyères. If Nice is sheltered from the northwest winds, the East winds, which prevail there especially in April and May, are quite as injurious to tuberculous persons. Changes of temperature are common, says Fodéré; I have seen many English, who had sought for health at Nice, suddenly die there. An English physician, Dr. Pugh, has made similar observations. "Of seven persons (six young men and one female advanced in life) attacked by phthisis, all died during the course of the Winter at Nice. If they had remained in England, or in the South of France, I firmly believe, says he, that of the six, four would still be living,—their dissolution would have been at least deferred. Many among the English, reaching Nice in good health, are attacked by severe inflammatory fevers, and all suffer more or less from the lungs." At the hospital of Nice, according to M. Bricheteau, one-seventh of the deaths

are due to phthisis. "It is wrong then, for physicians to advise a residence in this city."*

Menton, Villefranche, Monaco.—The same cannot be said of Menton and Villefranche. According to M. Carrière, there are few localities, the climate of which agrees better with the tuberculous. It is mild without being too humid, warm without ceasing to be temperate. The thermometrical oscillations there, are so seldom and so slight, that they can never produce any severe shocks upon even the most debilitated organizations. If it were not for the water of its lagunes and its mineral springs, Venice, according to this author, would have to yield the palm to Menton.† Monaco does not enjoy the same advantages; the inconstancy of its temperature, should prevent its being sought as a residence for the phthisical (Carrière, Climat de l'Italie).

Genoa.—Genoa agrees with them much less. On account of its situation, it receives the influence of every wind which blows from the different points of the horizon. The northwest wind prevails as tumultuously perhaps as in the gulf of Naples. The mean temperature of Winter is quite high, 8°.49. It is higher than that of Rome, 8°.1, but it does not exclude the thermometrical caprices which are repeated with great frequency during the cold season. It should be excluded from the medical stations, which may serve therapeutically, in chronic diseases. The diseases which occupy the first rank in the pathology of this city, are pneumonias, rheumatisms, catarrhs, and phthisis.‡ This last disease comprises a sixth of the deaths.

The other parts of the coast do not partake of these causes of insalubrity. From Genoa to Spezzia, the road passes through a series of cities and villages protected by high mountains, and presenting the most favorable hygienic conditions. Nervi, Chiavari, Servi, Moneglia, the bay of Spezzia, enjoy a very mild climate. This admirable roadstead, in which I

* Andral, Cours de pathologie.

† Ed. Carrière, Le climat de l'Italie, sous le rapport hygiénique et médical, Paris, 1849.

‡ Carriére, *loc.*

passed several days during the month of September, 1846, seems to me to merit its reputation in every particular.

Milan.—Passing towards the North, the climacteric influences change in a marked manner. Milan is exposed to every wind. The South wind reaches it, coming from the Appenines ; the West and the Southwest, after having crossed the Alps. The temperature in Milan, is cold and very variable. The thermometer has been seen to fall to 15° below zero. The mean of Winter is 1°.99. The climate of this capitol is not good then for consumptives. They go to Milan but do not remain there.

The shores of the lakes Maggiore and Como, are far preferable ; the latter especially, can be of great service in chronic affections of the chest (Carrière).

Venice.—Venice is, by general consent, one of the cities of Italy the best suited to the tuberculous. It would be impossible, says Carrière, to invent a climate which would be more favorable to them. There, there are no violent winds, no sudden transitions. The mean temperature of the year, is 13°.26 the mean Winter, 3°.35, that of Summer, 22°.82. The diurnal oscillations are very feeble, phthisis very rare. Brera had already made this observation ; M. Ollivier (of Angers) has verified it. Of 1200 patients admitted annually into the hospital of this city, but seven or eight are consumptive.* An Italian physician, Dr. Hyacinth Namias, published a few years since, upon the climate of Venice, a book, of which the *Gazette Medicale* has given an analysis. (Paris, 1848, page 249.) He enters into the same considerations as M. Carrière, and also remarks the rarity of phthisis ; but from a sentiment of reserve easy to be appreciated, he abstains from drawing any conclusion relative to emigration.

B. The Middle Portion of Italy.—Pisa.—Pisa is generally regarded as occupying the same rank as Venice. M. Bricheteau has even placed it before Venice. It is, says he, a kind of hot-house, where one is admirably protected from atmospheric variations ; it is one of the medical stations which receives the most patients. Nevertheless, the climate is a little too humid ; M. Carrière thinks so, and I think I also remarked this when

* Bulletin de l'Académie, t. ix, p. 173.

I was there, in 1846. There, as elsewhere, many die of phthisis; a great many succumbing shortly after their arrival. I might cite a painful example, of which all France preserves the remembrance. It is even admitted in the local practice, that the climate of Pisa may be injurious in the last stages of the disease.

Leghorn.—Pisa is the last station, proper for the tuberculous, which we shall meet going towards the South. At Leghorn, phthisis comprises nearly a ninth of the whole mortality.*

Sienna.—At Sienna, the northwest wind, so unhealthy upon the shores of the Mediterranean, blows with violence upon an unsheltered locality, and keeps up a continual agitation in the atmosphere. A residence at Sienna is mortal to consumptives. (Carrière.)

Florence.—That of Florence, is perhaps, worse still. M. Andral believes it to be more injurious than that of Genoa and Naples. The cold is severe in Winter, the heat intense in Summer. The North wind blows so often, that the opposite winds do not neutralize the effects; the transitions are sudden and frequent. The essentially changeable character of the climate makes a residence dangerous. According to the statistics, established by M. Journé, for the Hospital Santa Maria Novella, the proportion of phthisis to the whole mortality, is as 1 to $6\frac{1}{8}$. It is true, that in another table it is only one-eleventh.

Rome.—The climate of Rome is humid and unhealthy. Intermittent fevers predominate. They rage from July until September. That is the season of the malaria. Almost all the great Roman families emigrate during this season. When I was there in the month of August, 1846, all the palaces were deserted. The temperature is quite uniform, and the winds from the South predominate.

The city of Rome has enjoyed for a long time, in the treatment of pulmonary phthisis, a reputation which commences to decline, since the presence of an army of occupation has given an opportunity to French physicians to study it. "A residence

* Journé, Recherches statistiques, sur la phthisie en Italie. Bulletin de l'Académie, Paris, 1839, t. iii, p. 547.

at Rome is very favorable to consumptives, particularly in the first period, and especially when there is pulmonary irritability. Phthisis comprises but a twentieth of the deaths."* M. Carrière gives a similar opinion. It is the same with M. Bricheteau: "The climate of Rome, says he, may be considered as the second of Italy, in relation to its effect upon diseases of the chest; it is eminently useful to persons threatened with phthisis, but is not good in the last two stages of this disease. M. d'Assis even pretends that the progress of phthisis is more rapid there than in England."

Recent observations are opposed to this view of the case. From the observations made by Journé, it results that at San Giovanni di Lateran, among 2,540 women, admitted from 1834 to 1836, 126 were afflicted with phthisis, and that during the same time, of 379 deaths, 110 were due to this cause, which gives the frightful proportion of 1 to 3.25, a figure which is only surpassed at Naples.

This disease made greater ravages in the army of occupation, than in France, among the same number of soldiers. M. Felix Jacquot† gives the following table of deaths during 1851 :—

Pernicious fevers,	15
Typhoid fevers,	12
Cerebro-spinal meningitis,	9
Pulmonary phthisis,	7
Chronic pleurisy,	4
Variola,	4
Organic affections of the heart,	3
Paludian cachexia, ascites,	3
Concussion of the spinal marrow,	2
Traumatic encephalitis,	2
Chronic diarrhœa,	1
Malignant rugeola,	1
Sporadic cholera,	1
Pulmonary catarrh,	1
White swelling,	1
Traumatic peritonitis,	1
Traumatic tetanus,	1
Total,	68

* M. Andral, Clinique Medicale.

† Histoire médicale du corps d'occupation des Etats Romains dans *Gazette Médicale*, 1854, p. 438.

In 1850, the diseases did not hold the same position upon the scale :—

Pernicious fevers and cachexias,	21
Pulmonary phthisis,	11
Cerebro-spinal meningitis,	3
Typhoid fever,	2
Total,	37

M. Jacquot justly calls attention to the frequency of pulmonary phthisis. It occupies the second rank in 1850, and the fourth in 1851. During the last year, there were seven victims among sixty-eight deaths, or 1 to 9.71, a proportion much larger than that we have assigned, according to M. Benoiston de Chateauneuf, to the French Infantry (1 to 13.6). We here see, then, a corps of the army, composed at their departure of men perfectly well, having left in the hospitals of France all who were suspected of being sick; it remained in the country recommended as a residence for consumptives, and it loses by this disease a fourth more than it would in France. I believe that hereafter these facts should be taken into serious consideration, when patients are recommended to the Eternal City.

I cannot help remarking, before proceeding farther, that at Rome, which M. Boudin cites as one of the localities where the law of antagonism is verified, intermittent fevers, typhoid fever, and phthisis, prevail together, and with an intensity which does not admit of a doubt.

C. Southern Portion of Italy.—Naples.—Naples, with which we shall end this review of Italy, does not present the same uncertainty. Every one considers it, and with reason, as one of the cities of the world where most consumptives die. This is not surprising to those who are acquainted with the vicissitudes of this beautiful Neapolitan sky. Situated between the sea and the Appenines, exposed to the cold air which descends from these mountains, to the South wind which has crossed the burning deserts of Africa, it passes at every moment through the alternation of dryness and moisture, of cold and heat, which must be fatal to consumptives. The thermometer falls at times below zero; it snows there, and rain falls during Win-

ter in torrents, and commences even in Autumn. During my residence there in August, 1846, it rained almost every day. Without doubt these atmospheric vicissitudes are of short duration, and that city is none the less for that, the most seductive of all Italy; but consumptives should guard against the attractions which draw them there. According to the statistics of M. Journé, phthisis in the civil hospitals is to the whole mortality as 1 to $2\frac{1}{3}$, and in the military hospital as 1 to $3\frac{6}{7}$, a proportion which greatly surpasses, especially for the latter, that which takes place by the same calculation, in the hospitals of Paris. According to Requin (*Gazette Medicale*, 1834), it would be, it is true, less; it would not surpass a tenth for the military, and a fifteenth for the rest of the population. Even accepting these last data, the gulf of Naples is one of the portions of Italy which should be interdicted in the most formal manner to consumptives. It is the same with that of Salerno. Gaëta, on the contrary, seems to offer them better climacteric conditions.*

Sicily.—I have not sufficient data, whereupon to form a reasonable opinion upon the subject of Sicily. I am only acquainted with Syracuse and Messina, and I do not advise a residence there. In the bay of Syracuse, there is, during Summer, an overpowering heat. The southerly breezes blow strongly, and I do not believe that I have felt, even in Bengal, a wind more burning than that there. It seems to be not quite as hot at Messina; but the wind shut up in the narrow gorge which the mountains of Calabria form with the eastern extremity of the chain which divides Sicily, prevails with strength in this defile.

From the foregoing facts, relative to the influence of navigation, as well as of warm climates, we believe the following conclusions can be drawn :—

I. Sea voyages accelerate the progress of pulmonary tuberculization more frequently by far, than they retard it.

II. This disease, far from being rare among mariners, is upon the contrary, more frequent among them than in the army upon

* Carriére, op. cit. page 235.

land. It rages with the same intensity in the hospitals of our ports, at our stations, in our squadrons. The marine officers, physicians, commissaires, in a word, all who go to sea are subject to this common law.

III. With rare exceptions, which it is proper to admit, in presence of a few facts reported by men worthy of belief, phthisis progresses aboard ship, with more rapidity, than upon land.

IV. The naval professions should be interdicted, in the most formal manner, to young men who seem to be threatened with phthisis, to whom it has been the habit to recommend them.

V. Tuberculous persons can receive benefits from going to sea, only by being placed aboard ship under particular hygienic conditions, by changing climate and locality, according to the seasons and atmospheric vicissitudes, which it is impossible to realize upon ships having a mission to fulfil. Journeys by land, a prolonged residence in a well chosen country, permit the same end to be attained with less expense and less danger.

VI. Warm countries, regarded as a whole, exercise a bad influence upon the progress of tuberculization, and accelerate its course.

VII. Those situated under the torrid zone (warm countries properly so-called), especially partake of this sad prerogative, and a residence there should be positively interdicted to consumptives. The unanimous opinions of the physicians-in-chief of our colonies and of the English colonies; the comparative statistics of colonial troops of the regiments of Europe in the two countries; the frequency of phthisis in our inter-tropical stations, and in English governments situated under the same latitude; a multitude of special observations demonstrate it in the most positive manner: the examination of each locality in particular confirms it.

VIII. Most warm countries situated without the equatorial zone, are also prejudicial to consumptives. A few places upon the confines of that region, and concentrated in a narrow space are exceptions. They owe this to local conditions. A residence there guarantees consumptives from acute affections of the air passages which accelerate the progress of tuberculization, permits them to lead a kind of life better fitted

to preserve their strength, sometimes prolongs their existence, and always in every instance contributes to soothe their last moments.

IX. The first period of phthisis is the proper time to advise emigration, from which good results may be expected.

Traumatic Hernia of the Lung. By M. LARREY. Read before the Surgical Society, of Paris. Translated for the MONTHLY from the *Gazette Hebdomadaire.*

M. M——, Lieutenant, was wounded in the Crimea, June 8th, 1855, at the assault of the Malakoff, by a ball which passed through his chest. It entered the left lateral region, perpendicular to the thoracic wall, fractured the ninth rib, and passed out behind upon the same horizontal line, at the posterior part of the same rib, near the spine, and upon a level with the spinous processes. The opening in front was smaller than that behind, which fact it is well to notice, particularly on account of the peculiar complications of the wound.

The immediate symptoms were first: an abundant spitting of blood, then an emission of bloody urine; afterwards a hæmorrhage from the wound, and finally a loss of consciousness, which seemed to arrest these symptoms. There is no doubt as to the pulmonary perforation, after the pathognomonic sign of hæmoptysis; but the hæmaturia cannot be as readily accounted for by a lesion of the kidney, because that organ is situated below the track apparently taken by the ball, nor did any symptoms of nephritis afterwards occur.

The wounded man, left for dead upon the ground, was taken up by the Russians, and carried away in the ambulance, but obliged to walk sustained only by his arms, he made a false step and fell. It was when he fell, according to his account, that he felt an undefinable sensation, not a severe pain, in the region of the anterior wound. Placing his hand there he discovered a soft body projecting exteriorly, about the size of a large hen's egg. He instinctively tried to reduce this tumor, but failing, he endeavored to retain it by his handkerchief, feeling a little more difficulty in breathing but no pain in the abdomen. This is also a fact worthy of notice.

Coming up to the ambulance a few minutes after, he was attended by a Russian surgeon, who carefully examined the wound, seemed to recognize a hernia of the lung injured by the projectile, but did not attempt to reduce it. He first applied a strong ligature about its base, and each day after tightened it by degrees, at the same time sprinkling over the tumor a caustic powder, to hasten the elimination.

The consecutive symptoms corresponded with the severity of the wound. The spitting of blood continued for fifteen days, varying in quantity; the pain in the wounds was more severe at that one where the hernia was, while the difficulty of respiration induced frequent attacks of coughing. A few splinters of the fractured rib became detached, and the hernial part, reduced to a blackish and shrivelled mass, was finally eliminated at the end of six weeks. Adhesions formed around the wound, between the costal pleura and the pulmonary pleura, and this opening kept up by the splinters of bone, by the hernia, by the ligature, and by the suppuration, finally closed at the end of eight or ten days, and produced at this point a firm cicatrix. As to the posterior wound made by the exit of the ball, there passed through it first darkish matters of an undetermined nature, eschars without doubt, and perhaps pieces of the clothing as well as secondary and tertiary splinters. But M. M—— could give no precise information upon this point.

Leaving Sebastopol for Simpheropol, the wound opened and suppurated afresh; then being removed he had some cerebral symptoms which seemed to arise from an old wound upon the head received from the bursting of an howitzer, but which passed off with the healing of the wound. It opened once more during the transfer of the wounded man to Odessa, and finally cicatrized upon his return to France.

Coming to Paris, M. M—— had occasion to call upon our friend M. Lenoir, who upon closely examining the cicatrices of the two wounds, found before and upon a level with the anterior wound, evidences of a reducible hernia of the lung. He immediately sent this young officer to the Hospital of Val de Grace, and after taking all the necessary antecedents, ascertained the following present condition by a careful examination.

In the region of the lateral wound of the chest, immediately below and upon a line with the cicatrix, there exists a prominent elevation of the skin, which even during the recumbent posture is of the size of the last phalanx of the thumb. The cicatrix passes over nearly the longest diameter of it; it is thin, depressible, and of a consistance quite analogous to that of an enlarged nipple, but not turgescent. The tumor gives the sensation, not of fluctuation, but of elasticity, like an expansible and reducible tissue, to such a degree that it is effaced and completely disappears upon methodical pressure. It seems even to pass beyond a rounded opening with firm borders, to the bottom of which the end of the finger penetrates. This tumor, as soon as pressure is removed, reappears spontaneously, and projects still more during the effort of coughing, at the same time becoming more extended. It also increases while walking, or even in the standing position if prolonged, but rarely attains twice its ordinary volume. The respiratory murmur is heard with difficulty and very indistinctly by means of immediate auscultation; it is, however, pure and unaccompanied by râles. It is perceived by the stethoscope better than by the unaided ear, and in expiration only, not at all in inspiration. Percussion furnishes no sound of any utility to diagnosis. I invite our honorable colleague M. Morel-Lavalleé, to verify this diagnosis, by his special investigations upon pulmonary hernias.

The simple indication in this case from the easily reducible condition of the pneumonocele, is to retain it reduced by the aid of a bandage. The first apparatus made by M. Charriére could not be endured, because being too small it painfully compressed the base of the chest and the epigastrium, like a tightly drawn belt. A second apparatus, made much larger, like a corsage, with suspenders, and furnished with quite a large convex pad, fully met this indication, and permitted M. M—— to walk and cough without any displacement of the bandage or of the hernia.

Such are the conditions of the patient presented by M. Larrey, which elicited the following discussion :—

M. Morel-Lavallée, in his investigations of hernia of the lung, has never before seen a case like this one. The tumor formed

by the hernia, ordinarily disappears during inspiration, and is inflated during expiration. In the present case, on the contrary, these two acts are not clearly marked, a circumstance which may give rise to some doubts concerning the diagnosis. We might almost believe that it is a case of omental hernia; the completely unprecedented position of the tumor would not destroy this hypothesis, for M. Morel has seen an equally singular case, in which the omentum made its appearance externally, through the thoracic wall, in consequence of a wound which had involved at the same time this wall and the diaphragm.

Still the patient of M. Larrey is really affected with pulmonary hernia, for a very characteristic sign of it is present; if we attempt, in fact, to press upon the tumor, in order to reduce it, we perceive a slight crepitation, which indicates the presence of a pulmonary lobule. We may further remark that this tumor does not increase in size when we cause the patient to make an effort of straining. This is, however, merely a negative sign, which M. Morel has more than once noted in pulmonary hernias. On the contrary, in those cases where a straining effort has no effect whatever upon the pulmonary hernia, the slightest cry, the effort of talking, of coughing, in a word, every sudden expiration causes an immediate enlargement of the hernia of the lung. These facts are embarrassing and have diminished the confidence which M. Morel has accorded to the ingenious theory concerning the straining effort, which has been propounded by M. Cloquet.

Herein lies the difficulty: according to this theory, this straining effort is accompanied by an occlusion of the glottis; the air being thus imprisoned in the bronchial cavities, the slightest contraction of the chest, caused by the expiratory muscles, must press upon this air, and the latter, in its turn, finding in the pulmonary hernia a point freed from the resistance of the thoracic wall, must inflate the herniated viscera, and cause it to project externally.

But the observation of facts does not confirm this proposed theory; moreover, M. Morel has met with other facts which are not explained by it. Certain patients have purulent collections in the pleura, collections which cause a tumor under the skin, or which communicate with the exterior by a fistula.

According to the theory of M. Cloquet, any act of straining must enlarge the liquid tumor or cause a certain quantity ot the effused fluid to issue by the fistula; in fact, neither of these phenomena presents itself. If, on the contrary, we cause the patient to make a sudden expiration, even though it be slight, immediately the subcutaneous liquid collection seems to increase, the liquid often springs in a jet from the fistula.

Such are the facts which embarrass M. Morel, and which are not sufficiently accounted for by the theory of M. Cloquet, in other respects so remarkable.

M. Cloquet thinks that the patient who has just been presented, is not a suitable one for the study of the influence of the respiratory movements upon pulmonary hernia. The portion of the viscera which forms the tumor, has doubtless contracted adhesions with the opening of the thoracic wall, in consequence of the ligature which was applied. When these adhesions are wanting, he has remarked for a long time past, that pulmonary hernia is diminished during inspiration and enlarged during expiration, as in coughing and straining.

As to his theory concerning the effort of straining, M. Cloquet adheres to it, because he believes it to be correct, in spite of the discussion which he was formerly obliged to sustain on this point with a professor of physiology, who could not pardon him for not being of the same opinion with himself.

He believes also in the occlusion of the glottis, which is indispensable to furnish a point of resistance to the air enclosed in the lung. Consequently the glottis being closed, the hernial tumor must necessarily become inflated, when the thoracic wall and the diaphragm tend, on every side, to narrow the pulmonary cavity.

M. Morel replied that in hernias without adhesions, and in which the respiratory murmur is very readily perceived, he has never seen an effort of straining, even though very severe, inflate the chest, when it is unaccompanied by a sudden expiration. This example, added to that of the liquid collections of the mediastinum, proves that in the simple act of straining, the air contained in the lung is not subjected to that degree of tension necessary to inflate the tumor and to expel the liquid.

As to the firmness of the chest, may we not imagine, that it

can be effected otherwise than by the support which the distended lung may lend to its walls? Would not the concurrent action of the muscles, of the ribs, &c., be sufficient to explain it? In the same way as the forearm, for example, is placed in a firm position by the simultaneous contraction of the extensors and flexors?

M. Verneuil. I do not wish to engage the Society in a purely physiological discussion, which, however would only serve to elucidate the differences that have arisen between MM. Morel-Lavallée and Cloquet. I shall content myself with saying that the theory concerning the effort of straining, as it exists at the present time, is not complete. It appears evident that, in certain cases, the glottis closes really to imprison the air contained in the air passages, and that its occlusion contends with the contraction of the expiratory muscles; but it is certainly not always so, and under some circumstances, the glottis remains open for the purposes of respiration and phonation, even when all the muscles of the chest are violently contracted in order to keep this cavity dilated and to render completely immovable the bony parts of which it is formed.

This fact is already well known, and several authors have observed, that energetic and prolonged efforts of straining can be continued for a long time, in spite of the opening of the glottis or the establishment of an artificial passage through the trachea, for example. Recent observations, which I have had it in my power to make, have confirmed this opinion. I have observed for sometime, the struggles of several wrestlers, for the purpose of making certain physiological studies. I have noticed that during the oftentimes prolonged struggle in which they mutually contend, the chest, previously dilated by a strong inspiration, remained afterwards motionless and resisting. During this time, the respiration, nevertheless continued, which necessarily indicated the permeability of the glottis; but it was effected solely by the aid of the diaphragm; the regular rising of the epigastric region clearly indicated it, and could be observed without difficulty, for wrestlers, as is well known, are almost entirely naked.

Having repeated these experiments upon myself, I became convinced, that it was possible to maintain, for a very consid-

erable time, the forced dilation of the thorax, and consequently its immobility, while continuing at the same time to breath, and even to speak, or to shout. The ribs, in this manner, furnish to the muscles of the body and of the thoracic members, a firm point of resistance, indispensable to the contest. I say indispensable, for if, through fatigue or inadvertence, the wrestler allows his thorax to sink, and if, being hard pressed by his adversary, he cannot dilate it anew by an energetic inspiration, he will speedily yield, or at least the contest will become very unequal.

All these physiological observations and many others, on which, to my great regret, I cannot amplify, have determined me to admit for the body, three distinct varieties of effort.

1. The effort which I shall call *general* or *thoraco-abdominal*, and in which there is a contraction of the four sphincters, which serve for the passage of the air, of the alimentary and fœcal matters, and of the urine, otherwise called occlusion of the glottis, of the cardia, of the anus, and of the neck of the bladder. This effort, which corresponds to that described by M. Cloquet, takes place frequently, as for instance, in the action of raising a heavy weight. But it is not durable, for respiration cannot be long suspended. The expiratory muscles are, in this instance especially, energetically contracted.

2. The *abdominal* or *expulsive* effort, in which the expiratory muscles also play the most prominent part in narrowing the abdominal or thoracic cavity, in every direction. In this case, some of the sphincters are closed, while others on the contrary, are open, or are overcome, to allow the passage of air, urine, matters thrown up from the stomach, the fœces, and the child during labor.

3. The *thoracic* effort, in which respiration is not suspended, and which consists especially, not only in the energetic and sudden contraction of the external dilating muscles of the thorax, but also in the continuation, in the persistence of this contraction, which only ceases through the weariness of those muscles, or because the compulsory dilation which they produce in the thorax is overcome by a superior pressure.

The distinction which I have just established, is very fruitful in pathological deductions ; it is of a nature to show all the

light which physiology, even the most minute, can throw upon the precise knowledge of diseases.

M. Morel-Lavallée without wishing to detract from the importance of the observations of M. Verneuil, would call attention to the fact that they do not explain the difficulty which he has raised.

M. Cloquet is aware, that in certain muscular efforts, the glottis is not closed, but it is the exception. As to the facts referred to by M. Morel, they are too complex, and include too many conditions to be easily explained in this short discussion.

CHRONICLE OF MEDICAL PROGRESS.

Carbonic Acid Gas as a Local Anæsthetic in Uterine Diseases, etc. Addressed to the New York Academy of Medicine, by J. Y. Simpson, M.D.

Carbonic Acid is usually recognized by toxicologists as a very powerful narcotic poison, when inhaled in sufficient quantity. The rapidity and potency with which it acts as a general anæsthetic, has long been described by travellers in the experiment of temporarily plunging a dog into an atmosphere of carbonic acid in the Grotto del Cane, at Pozzuoli.

Carbonic acid gas acts also as a local anodyne or anæsthetic. The anæsthetic effect of a stream of carbonic acid, when applied locally, is easily proved by holding any exposed portion of the surface of the body where the skin is thin—as the wrist or forearm—over a jet of the gas, escaping from a common gas receiver. In a minute or two, the surface of the exposed part will be found benumbed, as when it is exposed to the vapor of chloroform ; and pinching or irritating it is not followed with so much pain as a similar amount of pinching and irritation applied to the opposite and unexposed wrist or forearm. The degree of local anæsthesia capable of being produced in this way by the vapor of chloroform applied to a portion of the cutaneous surface, is, as I have already stated, not by any means deep and complete ; but, in the relative experiments which I have made, it has generally appeared to me to be greater when a jet of carbonic acid gas was used, than when chloroform vapor was employed. And, like chloroform and other analogous agents, car-

bonic acid gas acts more powerfully when applied locally to mucous, than when applied to cutaneous surfaces.

In one respect, carbonic acid will be found preferable to chloroform vapor as a topical anæsthetic to the vagina and uterus. Though the application of the vapor of chloroform to the mucous membranes of the mouth, nose, pharynx, and bronchi, in the way in which it is usually inhaled, does not produce any very marked feeling of warmth in these mucous surfaces, yet its introduction into the genital mucous canals generally creates a disagreeable, and, in some instances, a very painful, though temporary feeling of heat and burning. The injection of carbonic acid gas into the vagina is not followed by any such painful sensation.

I have used carbonic acid as a local anæsthetic, principally in neuralgia of the vagina and uterus, in dysmenorrhœa, and in morbid states of the pelvic organs accompanied with pain, as in carcinoma, &c. I have found it also sometimes of use in irritable states of the neighboring organs. Two years ago I had under my care from Canada the wife of a medical gentleman, who was suffering much from that most distressing disease—dysuria and irritability of the bladder. Many modes of treatment had been tried in vain. The injection of carbonic acid gas into the vaginal canal several times a day at once produced relief, and ultimately effected a perfect cure. She has remained well since her return to America, and lately became a mother. Occasionally relief follows immediately. In two or three instances I have seen the use of the gas continued daily for months. I have notes of one case where the patient was invalided and almost entirely kept to the supine posture for years, from feelings of pain and bearing down in the uterus and neighboring parts, particularly on attempting to sit or walk. Many modes of treatment were tried by myself and others, with little or no benefit. She has, however, at last regained in a great measure the power of progression, and freedom from suffering in the erect posture—a result which she herself ascribes to the local application of carbonic acid gas, which I recommended to her some months ago; and in the use of it she has since regularly persevered.

Since using carbonic acid as a local anæsthetic application in uterine disease, I have met with two or three notices of this use of it by modern authors. In his work on Diseases of Females, published in 1835, the late Dr. Dewees, of Philadelphia, when discussing the treatment of carcinoma uteri, observes, "We have enabled several patients to derive much comfort, as well as temporary relief,

from the extrication of carbonic acid gas within the cavity of the vagina, by means of a flexible tube, of sufficient length and size attached to the mouth of a bottle, in which there is mixed diluted sulphuric acid and the carbonate of lime. This may be introduced into the vagina several times in the twenty-four hours. In two or three instances, this substance has relieved the severity of pain whenever it was employed, as well as diminished the offensiveness of the discharge."*

In cases of painful menstruation or dysmenorrhœa, Professor Mojon of Geneva has recommended the local application of carbonic acid gas.† Dr. Mojon states that in the disease in question he has employed the injection of carbonic acid gas into the vagina in a great number of instances, and generally with decided advantage, the pain being almost always relieved by this treatment. He directs the remedy to be used two or three times a day, and for five or six minutes each time. Like Dr. Dewees, he recommends the gas to be obtained by pouring dilute sulphuric acid on some pieces of chalk in a flask, from which a curved flexible tube carries it into the vagina.

In a paragraph which I have cited in a preceding chapter, from the second edition of the work of Dr. Pereira, on Materia Medica, carbonic acid is described as having acted speedily and beneficially in one case as a local sedative in uterine pain. "A lady," he observes, "who had suffered a considerable time from some uterine affection, and had derived no relief from the treatment adopted, was advised to consult a physician in Italy (Dr. Rossi). After he had examined the condition of the uterus, he assured her there was no organic disease, but merely a considerable degree of irritation, for which he proposed to apply carbonic acid as a sedative. This was done by means of a pipe and tube, communicating with a gasometer situated in another room. This patient obtained immediate relief, and although she had been oblidged to be carried to the doctor's house on account of the pain experienced in walking, she left it in perfect ease. On her return to England, she had a relapse of the complaint, and applied to Dr. Clutterbuck to know whether she could have the same remedy applied in London, in order to save her the necessity of returning to Italy."‡ This case and paragraph

* Treatise on the Diseases of Females, p. 269.

† Bulletin de Therapeutique.—American Journal of Medical Sciences, vol. xxii. p. 469.

‡ Elements of Materia Medica, vol. i. p. 155.

however, seemed to Dr. Pereira of so little value, that he has omitted the details of it in the last edition of his work. But from the time of reading it, I have tried at various times, and more particularly during the last two or three years, the local application of carbonic acid to the mucous membrane of the vagina and cervix uteri in different painful conditions of the uterus and neighboring parts; and, whilst it has failed in some instances to afford the expected relief, it has in others proved, as I have already stated, of great, and occasionally of almost instantaneous benefit.

In practice I have generally used a common wine bottle for the formation of the carbonic acid gas, and formed the gas by mixing in the bottle six drachms of crystallized tartaric acid with a solution of eight drachms of bicarbonate of soda, in six or seven ounces of water. A long flexible caoutchouc tube conducts the gas from the bottle into the vagina. The cork fixing this tube into the mouth of the bottle, should be adapted so as to prevent any escape of the gas by its sides. With this view the cork should be perforated by a metallic tube, and covered externally with a layer of caoutchouc.

The use of carbonic acid as a local anæsthetic to the uterine mucous surfaces and to other parts of the body, is not a discovery of late times. I have found that in this, as in many other examples, what appeared to me at first novel, was, when fully investigated, a practice known previously in its essence, and perhaps in its more minute details also. Besides here, as elsewhere, when once we detect a principle, such as the anæsthetic power of carbonic acid gas when applied topically, we can explain by it the good effects of modes of practice, which previously perhaps we were inclined to ridicule and reject.

1. In some, for example, of our oldest works on female diseases, as in the Hippocratic writings,* and in the chapters of Paulus Ægineta,† Rueff,‡ Paré,§ &c., referring to uterine affections, direc-

* See Kuhn's edition of Hippocrates, vol. ii. De Naturâ Muliebri, pp. 567, 597, &c. De Morbis Mulierum, p. 859, &c. "Theophilus describes the process very minutely, but it will be readily understood, that it consisted in introducing the fumes of strong-smelling things, such as frankincense, spikenard, cassia, and storax, into the vagina by means of a funnel." Dr. Adams' edition of the works of Hippocrates, vol. ii. pp. 742 and 748. See also on the Hippocratic method of fumigating the mucous surface of the vagina, Halle and Nysten, in Diction. des Sciences Medicales, vol. xvii. p. 135.

† Adams' edition of Paulus Ægineta, vol. i. p. 642, &c.

‡ The Expert Midwife (1637), compiled in Latin, by James Rueff, part ii. p. 52, &c.

§ Johnston's Translation of the Whole Works of Ambrose Paré, p. 944, with a description and figure of "a vessel made with a funnel or pipe for to fumigate the wombe."

tions are given for the relief of local pains, &c., in the uterus, by a system of practice which at least included, and perhaps which essentially consisted of the local application of carbonic acid gas to the mucous membrane of the genital canals. I allude to the burning of various herbs, aromatic and medicinal, and the application of the fumes arising from their combustion, by appropriate tubes and instruments, to the interior of the vagina. It is now known to all that the combustion of dried plants and vegetable substances gives rise to the formation of carbonic acid; and the fumigations of the ancients, when they acted beneficially, probably acted much more by the mere topical application of this gas, than by anything aromatic or medicinal contained in the smoke of the burned ingredients.

2. Further, the knowledge of the marked local anæsthetic effects of carbonic acid gas appears to me to explain the good effects sometimes derived from a system of modern practice regarding which I formerly felt great skepticism. I have often been assured by patients, of the soothing and sedative effects of the direct injection from the spring, of streams of various mineral waters, as practised at different German baths. It always seemed to me impossible that the slight amount of alkaline salts which these injection baths or streams contain, could be followed by the sedative effect so often ascribed to them. But from the inquiries that I have made, I believe it will be found that all the mineral waters which, when locally applied, produce this sedative or anæsthetic effect, contain a greater or less quantity of free carbonic acid, rapidly and constantly escaping from them; and the practice in its true therapeutic analysis probably consists only of the local application, in a somewhat clumsy form, of carbonic acid to the genital mucous surfaces. At some of the German watering-places, as Neuheim, Marienbad, &c., the large quantities of carbonic acid thrown off from the mineral wells has latterly been collected, and applied *per se* in the form of baths, jets, and streams, to different parts of the cutaneous and mucous surface—as to the uterus in neuralgia, &c., to the limbs when ulcerated, to the eye in irritable chronic ophthalmia, &c., &c. These uses of carbonic acid have been followed out, without, I believe, any tenable rationale having been suggested of the probable mode of action of the treatment. The utility of the practice, which I have been assured by my friend Dr. Funck of Frankfort, is most marked in some diseased states, will find I believe, its true explanation in the local anæsthetic effect of carbonic

acid. And if so, it is scarcely necessary to add, the remedy may be artificially made, and readily applied at any time, and at any place, and in the practice of any physician.

3. A knowledge of the topical anæsthetic effects of carbonic acid serves perhaps also to afford an explanation of other points in common therapeutics. There are, for example, circumstances in medical practice in which we either incidentally or intentionally apply carbonic acid to the gastric and intestinal mucous membrane. In gastric irritability and nausea, physicians, since the time of Riverius,* have constantly been in the habit of prescribing effervescing saline draughts, or artificial aërated waters, which throw off a great quantity of carbonic acid after their introduction into the stomach. In some instances the antacid action of the alkali may explain this effect; but is not the sedative action of these draughts, in most instances, dependent upon the local anæsthetic effect upon the mucous surface of the stomach of the large quantities of carbonic acid which they eliminate?

Dr. Pereira refers to Mr. Parkins' late recommendation† of the topical application of carbonic acid gas as a clyster in dysentery and diarrhœa. But neither Dr. Pereira nor Mr. Parkins seem to be aware that the practice is not altogether novel. As long ago as 1772, in a case of diarrhœa, complicating continued fever, Mr. Hey of Leeds threw up into the rectum, on two successive days, injections of carbonic acid gas. This practice had, as he supposed, the best effects—both the frequency and fœtor of the stools being apparently diminished by it.‡ Dr. Percival of Manchester also published in Dr. Priestley's work "two similar instances of the salutary effects of mephitic air thus administered as an enema."§ The same practice was also adopted in the last century by Dr. Warren of Taunton,

* The celebrated anti-nauseant and anti-emetic potion of Riverius was composed of a solution of a scruple of salt of wormwood (an impure carbonate of potass), mixed with a table-spoonful of lemon-juice. He describes it as a "remedium præstantissimum, præsertim in vomitu qui febribus malignis solet contingere."—Praxis Medica, lib. ix. cap. 7; et Centuria Observationum, obs. 15.

† On the Efficacy of Carbonic Acid Gas in the Diseases of Tropical Climates, &c.—London Medical Gazette, vol. xviii. p. 777.

‡ See A Letter from Mr. Hey concerning the Effects of Fixed Air applied by way of Clyster, in Dr. Priestley's work, vol. ii. p. 292.

§ See Dr. Dobson's Medical Commentary on Fixed Air. London, 1787, p. 14. Dr. Priestley on Air, vol. ii. p. 375. Dr. Priestley's Experiments, &c., on the Different Kinds of Air, vol. i. p. 305.

and Dr. Rotheram.* "May we not," asks Dr. Percival, "presume that the same remedy, viz., enemata of carbonic acid gas, would be equally useful in dysentery?"† Dr. Henry subsequently recorded two cases of dysentery in which the use of carbonic acid clysters was, in his opinion, followed by very marked relief of the abdominal pains and swelling, and a diminution of the fœtor of the discharges.‡

4. Carbonic acid, when applied to the surface of the body—the skin having been previously removed—acts as a local anæsthetic. A practice which probably depends for its utility on this principle has long been in vogue. The old yeast poultice (*Cataplasma cerevisiæ*) exhales from its surface a quantity of carbonic acid gas; and, perhaps, the beneficial and anodyne effects which surgeons formerly ascribed to it in the treatment of irritable and sloughing sores was in a great degree owing to the carbonic acid eliminated from it serving as a local anæsthetic and antiseptic. The constantly recurring motion, however, of points in the surface of the poultice, from bubbles of the gas mechanically raising and bursting it, does, no doubt, more than counteract, in some instances, any sedative effect that is derivable from the topical anæsthetic application of the carbonic acid. And perhaps far simpler means could be easily devised to keep an open and painful ulcer or wound in contact with a sufficient quantity of carbonic acid. Dr. Percival states that in the application of pure carbonic acid gas to a carcinomatous sore, the sanies of the cancer was "sweetened by it, the pain mitigated, and a better digestion produced."§ Dr. Ewart, of Bath, applied it locally in two cases of ulcerated cancer of the mamma. In the first of these cases the ulcer, which was nearly five inches long, three inches broad, and about two inches long at its greatest depth, entirely, though temporarily, closed up and cicatrized in three months, under the constant local application of carbonic acid gas. In the second case the cancerous ulcer was larger, very irregular on its surface, and discharged a thin, mucous, fœtid matter. It filled

* See Percival's Essays, vol. iii. p. 237.

† Priestley on Air, vol. i. p. 305.

‡ Experiments and Observations on Different Subjects, p. 125.

§ Priestley's Work on Airs, vol. i. p. 302. Dr. Percival cites also the following case:—"A physician who had a very painful aphthous ulcer at the point of his tongue, found great relief, when other remedies failed, from the application of fixed air to the part affected. He held his tongue over an effervescing mixture of potash and vinegar, and as the pain was always mitigated, and generally removed by this vaporization, he repeated it whenever the anguish arising from the ulcer was more than usually severe."

up and contracted somewhat in its dimensions under the use of carbonic acid ; and at the date of his report, viz., at the end of two months' application of it, Dr. Ewart observes that at least the gas "has kept a person in ease and comfort, who for so great a length of time before had known only agony and torture." "What," he elsewhere observes, "strikes us in the two preceding cases with the greatest astonishment, is the almost instantaneous relief of pain, which never failed to follow the application of the gas."* The celebrated Dr. Ingenhouz, who saw one of these cases, in which a "large cancerous ulcer of the breast" had temporarily cicatrized under the local application of carbonic acid, and then re-opened, states that still the ulcer "gives no pain when she (the patient) applies the air."†

The application of the carbonic acid gas was, however, speedily recognized as not capable of producing a cure, but as capable of producing alleviation only. "The public prints," observes the celebrated French chemist, Fourcroy, "contain accounts of several instances of the cure of cancer made in England by the application of the carbonic acid. We can nevertheless assert, that this means has been used by ourselves and others, without success, several times. After the first application, the cancerous ulcer exhibits a more favorable appearance ; the sanies which commonly flows, becomes white, consistent, and laudable ; the flesh assumes a lively color ; but these flattering appearances do not continue ; the ulcer soon returns to its former state, and passes through the usual changes with unabated violence."‡

In reference to the effects of carbonic acid upon raw surfaces and wounds, Dr. Ingenhouz mentioned to Beddoes the following experiment :—"Blister your finger, so as to lay bare the naked and sensible skin. The contact of air will produce pain ; put your finger into vital air (oxygene), and this will produce more pain ; introduce it into fixed or azotic air (carbonic acid or nitrogen), and the pain will diminish or cease." In relation to this statement, Dr. Beddoes informs us that he made the following experiments on three differ-

* Dr. Ewart's History of two cases of Cancer treated by Carbonic Acid. London, 1795, p. 48. On the Medicinal Effects of Factitious Air, part iv. By T. Beddoes, M.D., and James Watts, Engineer. Table of Cases, p. 4.

† See Part iii. of the Essay of Beddoes and Watts, p. 118 ; and Ingenhouz's Miscellanea, &c., 1795.

‡ Fourcroy's Elements of Chemistry and Natural History, Prof. John Thompson's translation, 5th edition, vol. i. p. 395.

ent persons :—First, The raised epidermis of a blistered finger, after all action from the cantharides had ceased, was cut away in carbonic acid gas. No pain was felt. Secondly, A second blister being opened in common air, smarting pain came on. In a bladder of fixed air, this pain soon went off. Thirdly, After opening a third blister, the finger was instantly plunged into oxygene. It felt as when salt is sprinkled on a cut. In carbonic acid gas, the pain in two minutes quite subsided ; but returned when the denuded skin was again exposed to the atmosphere.*

If there be no source of fallacy in these experiments, they certainly point to one kind of important improvement in the treatment of some painful burns, wounds, &c. For they appear to me to suggest the possibility of the suffering which is attendant on such injuries being controlled and cancelled by keeping the pained parts in contact with carbonic acid, or with some other gas or fluid, capable of acting as a local anæsthetic. If the reports of Ewart, Beddoes, and Fourcroy are correct, we ought also, indeed, to find carbonic acid an excllent application even as far as the mere healing and cicatrization of the broken surfaces are concerned.

* On Medicinal Uses of Factitious Airs, pp. 43–45. *Note on painless extraction of teeth.*—I have previously stated, that it was reported that M. Pernot, a dentist at Limoges, in France, had a secret of extracting teeth with little or no pain, in consequence of previously applying some obtunding agent to the gums. More recently, I have been informed by several persons, some of them medical men who had practised at Hong-Kong, &c., that the extraction of teeth is sometimes performed in China without pain. The alleged secret of thus annulling the pain incident on tooth extraction seems to be possessed by a particular guild of dentists in the Celestial Empire. They are said to apply locally the anodyne, and to be able to pull out the tooth with very little force or pain some hours subsequently. The substance employed is generally reputed to be extracted from the head of a fish ; and, if so, may probably be some form of phosphoric acid. Is it possible that any form of this acid can soften the tooth, or its bony socket, as acids generally soften bone, permitting its removal without pain, while the surrounding soft textures remain uninjured ?

Microscopic Appearances of Evacuations in Yellow Fever, observed by Dr. Blair.

The following letters from *Dr. Blair* to *Dr. John Davy* contain observations of so much importance, bearing upon the pathology of yellow fever, that we have much pleasure in making room for them. We may add, relative to the morbid specimens referred to in Dr. Blair's first letter, that Dr. Davy finds their appearance under the microscope to correspond with the description, and that the latter gentleman entertains no doubt of their being portions of vessels.

George Town, Demerara, March 8th, 1856.

My dear Sir,—I beg leave to enclose for your examination a small fragment of material which was expectorated by a seaman, Thomas Bailly, suffering from yellow fever in the Seaman's Hospital, on the 29th ult. The expectoration at the time of observation was of considerable quantity, amounting probably to an ounce. Some of it had a clear glairy appearance, and some was of rather an opaque white, and of a tenacious consistence. Mixed with this expectoration were several red spots, apparently minute blood-clots. On microscopic examination, the pale portion was found to consist chiefly of epithelium, but no cilia were observed on the cells, which were in general very perfect. Several fragments of broken capillary vessels were found mixed with it. When the red spots were subjected to examination, they were found to consist of bundles of capillary fragments, tinted of a bright pink or crimson, and without blood-corpuscles being present. Under the one-fourth and one-eighth inch object-glass of Ross, several of these capillaries were found to be colorless. I enclose a small portion of this material in tinfoil; and, lest decomposition should injure the specimen before it arrives at its destination, I have mounted a minute portion in Canada balsam, which is also sent. Although it is only a week put up in the balsam, I find it has lost much of its brightness of color already. The fimbriated ends are also injured. It would likely have done better in a glass cell, preserved in Goadby's solution, but I feared that the thin glass of the cell would have been fractured in passing through the post-office. I hope, however, that between the two samples sent, sufficient may reach you to enable you to form a correct idea of its structure. On the 4th of last month, in the case of a seaman named Morrison (fatal), I for the first time observed the undoubted presence of broken capillary vessels in the excretions of

yellow fever. In his case, also, it was first noticed in the expectoration. On all former occasions, epistaxis or bloody expectoration was looked on carelessly, as merely a manifestation of the hæmorrhagic tendency, and nothing was expected to be seen but blood-corpuscles under the microscope. These symptoms were therefore almost unheeded hitherto. On this occasion, however, some turn of thought suggested more particular attention to the subject, and the examination of Morrison's bloody sputa led to important results. I have since found the existence of broken capillary vessels one of the commonest phenomena of the disease. They are to be found sometimes in great abundance in the urine, in the alvine evacuations, in the white vomit, in the flaky sediment of the black vomit, in the bloody exudations and hæmorrhages from the mouth, and even on the blistered surfaces. In the flakes of black vomit, it is sometimes necessary to dissolve off the albuminous matter by a drop or two of liquor potassæ before they come fully into view. I had often seen them formerly in the urine and black vomit, and other fluids eliminated from the subjects of yellow fever; but as in most cases they are colorless and empty when so found, I was wont to set them down as extraneous bodies, and suspected them to be fibres derived from the linen sheets and towels of the establishment. With this preconceived idea, they were of course overlooked and unrecorded. On turning up some old mounted specimens of "caddy stool" of the epidemic of 1851, I find these vessels still existing in them. The fragments of capillaries are found generally in single cylinders; I have seen, however, a few branched and bifurcated. Their tendency to break off seems to be at the *bendings*. The fracture is occasionally clean, but generally the broken end is split into filaments. A separation of filaments seems to be the mode in which the fracture occurs; and in many fragments, the length of which will occupy three or four times the field of vision of a half-inch object-glass, several partial fractures may be observed in which the tube at such points is split all around longitudinally, and a perfect sub-division is about to occur. At such points on the outer angle, and at the open ends of the capillary fragments, the *débris* of blood corpuscles is to be seen, and these sometimes form a little dossil which is seen connected with the tube of the vessel by fibrillæ. In the urine I have seen some of the capillary fragments enveloped in the tube-cast material, but encrusted evidently with flat instead of spheroidal epithelium. I cannot observe in the specimens which I have now sent, any epithelial lining within the capillaries; and yet their calibre, I think,

is such as would lead us to expect its presence, were they not diseased In some of the specimens which I have kept of the same expectoration, epithelial is visible alongside of the broken capillary vessels, as if it, as well as the blood, had escaped from their cavities Finding that ecchymosis of the conjunctiva, epistaxis, and some other hæmorrhagic appearances, are common in yellow fever long before the blood has apparently lost any of its fibrine ; and finding that even when black vomit is established and the tongue is smeared with blood, the corpuscles are normal in appearance, I cannot but look on the textural lesion of the capillaries as a primary effect of the yellow fever poison, and as the *cause* of the congestions, ecchymoses, oozings, and hæmorrhages, and all their consecutive mischief. The phenomena of the present minor epidemic also corroborate the view that the poison attaches itself to the mucous membranes in the first instance. Its early effects seem to be local. The system is thereby inoculated, and the poison spreads to all the analogous tissues of the body. A general impregnation of the *circulation* in the first instance would be scarcely compatible with the fact of the slow, steady march of the pathogenic influence through the various organs of the body. I enclose the case of Thomas Bailly, as reported in our hospital case book. It will be seen how his attack commenced like a "common cold"—began in the bronchi, and how it gradually extended to the conjunctiva, mucous membrane of the mouth and fauces, to the liver and kidneys, and its final resolution. I may mention, in "reporting progress," that I have detected the glandular cells of the liver to be a common and very large constituent of black-vomit. Their shape and size and tint, and the presence of minute oil-globules beside the nucleus in the epithelium, leave no doubt in my mind as to their identity. In the flakes of the black-vomit sediment, also, there is not much difficulty, with the addition of liquor potassæ, in distinguishing the bile-flakes from the blood-flakes.

I remain, my dear Sir, ever faithfully yours,

D. Blair.

Dr. John Davy, F.R.S., &c., &c.

George Town, Demerara, April 24th, 1856.

On the 11th, while visiting early in the morning a patient of the Seaman's Hospital, named Nolin, I saw in his basin a few ounces of black vomit, with clear, slightly brown-tinted, supernatant fluid, and well-defined sooty sediment in little flakes. This vomit seemed formed from intermixture of food, drink, medicine, blood, saliva or

expectoration. Seeming to be as pure as could be obtained, I carried home with me for experiment a small phial of it. My first experiment was to evaporate a large drop of the sediment and serum on glass slips, in the sunshine. I mounted both in Canada balsam. That of the former has given me a fine specimen, in which, along with numerous loose oil-globules, many of the glandular cells of the liver (in which the black vomit abounded) are well preserved. I noticed, when spreading out the sediment with needles, in order to render it sufficiently translucent for mounting, that it was somewhat flossy in texture, and showed a reluctance to be subdivided. After mounting these, I dropped a little of the sediment on a number of glass slips, for the purpose of applying reagents. In dropping it from a wide-mouthed pipette, I found the sediment had a tendency to fall in little separate masses or blebs. They dried in the shade in a few hours. After drying, I found each specimen of sediment encircled with a pellucid ring of dry serum, which had oozed out of the sediment. This, under the microscope, showed only an amorphous glittering. But when I applied a drop of acetic acid to the centre, and it flowed over the margin, the whole pellucid ring started into view, filled with colorless, slightly opaque tubules, in the most beautiful loops and reticulations. I need not say with what surprise and delight I looked on this unexpected vision. The tubules were in two sets—the inner in regular network—their diameter filled one space of Ross's micrometer eye-piece, under the half-inch glass. The external set of tubules were at least twice the diameter of that of the others, and their arrangement was in large open festoons. Some of them seemed terminal and acuminated at one end, and appear to lie in a curtain of basement membrane. Within both sets there appeared numerous minute granules. When the acetic acid was stirred about in the sediment (the colored central portion), numerous detached hepatic cells were brought well into view, and by tearing up this part of the sediment with needles, I observed that several of the large tubercles permeated the mass. As usual, several common capillary fragments were present. After a few minutes, the tubules seemed to dissolve, and the acid evaporated, but on a re-application of the acid they re-appeared, although not at all with the former clear definition. To another specimen of the dried sediment I applied a drop of water, and found that by it I could detect the tubules, but they were faintly marked, and might have escaped observation had they not been looked for. These vessels are evidently quite different from the capillaries I have

hitherto noticed in the excretions of yellow fever patients; while the latter are generally straight and rigid, or broken off at sharp angles, the others are beautifully wavy, and sometimes duplicate, and symmetrical. Alcohol and ether acted peculiarly on these tubercles. A movement was instantly caused among them. The meshes swelled up and unravelled themselves, and showed at the angles of the network that the gyrations preserved the same calibre as the other parts. The ether acted in a very fugitive manner, the field soon being obscured by condensed vapor and the haziness from the diffused fat of the liver cells. The dissolved fat of the alcohol did not offer much obstruction to the light. *Liquor potassæ* brought out the tubules faintly and transiently, probably from dissolving them rapidly, but it at the same time extricated several fine large films of basement membrane from the colored sediment. After the evaporation of the acetic acid and ether, the tubules became again invisible. But after the evaporation of the alcohol they were still to be observed, but in an abnormal condition, and much less distinct than when wet with that reagent. The specimens acted on by liquor potassæ and nitric acid remained in a moist condition for several days, but without a trace of tubule after that time. In the first instance, the nitric acid acted fully as well as any of the reagents, and brought out the festoons still more distinctly. But it, moreover, enabled me to trace some of the tubules into the centre of the specimen, and showed them to be a continuation of vessels contained in the dark material which had floated out while the specimen was drying. But still more important, this reagent enabled me to detect *within* them distinctly liver cells, with their minute oil globules. I think there can be little doubt that these tubules are the radical secreting ducts of the liver disengaged from their attachments (or sloughed off) by that destruction of capillary tissue which I am now satisfied is the essential anatomical lesion in yellow fever. May not these observations throw some light on what I believe is still an undecided point in anatomy—viz.: the exact manner in which the bile radicles originate in the hepatic lobules? To me, what I have seen seems a demonstration of the induction of Kiernan on this point. It is true that only granules were visible in the sides of those tubules which had been floated out in the serosity; but may not these have been embryonic cells? or may they not have been the markings of the site of detached cells—the desquamatory process being common to the epithelial surfaces in yellow fever?

Nolin died after four days' illness. He was unusually yellow for

that space of time. After death, I found (rather an unusual occurrence in yellow fever) the gall-bladder nearly empty, and what was in it only a little pale, pea-green mucus.

I believe I now understand the source and relations of that alvine evacuation in yellow fever, which, in the last epidemic, has been named the "*caddy stool.*" It is generally liquid, like dirty water, with a gray, gritty sediment. This sediment under the microscope shows an abundance of crystalline material, chiefly triple phosphates or uric acid, or both; also, although invisible to the naked eye, numerous oblong plates, of a bright yellow color, which I have latterly called *bile crystals.* But the color of this stool is derived from innumerable little amorphous masses, granular in surface, and of a jet black color. This last material, I believe, is *carbon.* I have detected this black material and the bile crystals in several thin sections of the liver, in those who have died of yellow fever in the present epidemic; and I therefore infer that this peculiar stool is derived from the liver. I have also noticed that this stool seems most common when the respiratory function is embarrassed—in the pulmonary form of yellow fever. On the 5th instant, a Portuguese boy, named V. de Cambra, died with black vomit, well marked, in the Colonial Hospital. This was an exceedingly interesting case, from many circumstances. He suffered so much in his respiration, that his lips were markedly livid. His dyspnœa and restlessness were so great, that no careful auscultation could be made. His blistered surfaces bled so profusely, that the discharge might properly be called *hæmorrhage from the skin.* Two hours before his death, I examined this blood, and found the corpuscles normal; and I washed a small clot which I took up with forceps from his blistered surface, and preserved it in Canada balsam as a proof of the integrity of the fibrine. This boy's liver and spleen are full of what seems to be identical with the carbonaceous particles of the caddy stool.

Summary of Dr. Blair's Views on Yellow Fever.—Since receiving the previous letters of Dr. Blair, we have been favored with a communication from him, containing the following remarks, which will doubtless obtain that consideration from our readers which is due to any opinion expressed by so careful an observer:—

George Town, Demerara, May 25th, 1856.

The proximate cause of the disease is an aërial poison which enters the system through the mucous membranes, on which it impinges, and to which it becomes attached. In some extreme cases,

all the mucous linings of the eyes, nares, alvine passages, and bronchi, are poisoned at once; but more commonly, the first application of the poison is only partial. The primary and specific action of the poison is on the capillary vessels, and this action spreads and extends itself until the large viscera and bladder become affected in varying degrees. The mode of action of this poison on the capillaries is first as an irritant, and it ends by inducing a physical impairment of tissue. The consecutive lesions are, desquamation of epithelium, exfoliation of basement membrane, sloughing of the minute capillaries, and deep erosions. The symptoms are first those of an irritant poison, and afterwards are made up of the composite results of hæmorrhage and the circulation of blood, which has been contaminated by impaired functions of the excreting viscera.—*British and Foreign Med. Chirurg. Review.*

Discussion on Bronzed Skin, in the Academy of Medicine of Paris, at its session of the 26th of August.

M. Bouillaud.—It appears to me that M. Trousseau has given too much importance to the recent investigations of M. Brown-Séquard, concerning the supra-renal capsules. The facts reported by that physiologist seem to me so marvellous, that I should like to see them confirmed by new experiments, made under the eyes and with the participation of a certain number of savants. Is it not, in fact, extraordinary that certain organs, whose functions have remained concealed for so long a time, and without whose intervention the mechanism of life has been very well explained, suddenly acquire a physiological *rôle* so important that they are represented as being the seat of the principal phenomena of innervation—as presiding over the accomplishment of acts the most essential to the economy, —as, in fact, usurping the power hitherto attributed to the nervous centres; so that, by their destruction, life itself is terminated. Really, such assertions appear to me so strange that I still fear M. Brown-Séquard has pursued entertaining rather than scientific physiology.

As to the cases of *bronzed skin*, they appear to me curious rather than fruitful in results; and has not M. Trousseau attributed an exaggerated influence to the alteration of the supra-renal capsules, by giving them credit for disturbances as serious as those he has pointed out in the circulation, in innervation and in nutrition? I have just seen the supra-renal capsules of his patient. Their tissue

is assuredly much altered, but M. Trousseau knows full well that in all cachexia we find serious lesions in the majority of the organs, without it being possible to decide with certainty which of these alterations has produced the general morbid condition.

Besides, what may shake a little the too absolute conclusions which M. Trousseau draws from his case, is that I have just heard the Physician of the Ministry of the Interior, who had first treated the patient, say that this man, of a sordid avarice, carried sometimes this vice so far as to deprive himself of the necessaries of life, and starve himself almost to death. Now everybody knows that insufficient food is often a powerful cause of cachexia.

M. Trousseau.—Assuredly M. Bouillaud has been too severe towards M. Brown-Séquard. All who are acquainted with this learned physiologist know with what care, what skill, and what minute precautions he performs all his experiments. The facts he has announced he has observed in sixty animals, from which he removed one or both of the supra-renal capsules. M. Bouillaud accuses me wrongfully, methinks, of attaching too great an importance to the alterations of the supra-renal capsules in the production of the cachexia which accompanies the *bronzed disease*. I did not say that the lesions of the supra-renal capsules must, necessarily, induce Addison's disease, with its train of cacochymical symptoms; undoubtedly not. I very well know that we can meet with altered supra-renal capsules in many chronic diseases, and in every possible cachexia. But what I affirm, with Mr. Addison, is, that the affection called *bronzed skin* is always accompanied with very grave lesions of the supra-renal capsules, whilst these alterations are not necessarily found in the other forms of cacochymia. I do not pretend, either, that it is this lesion of the capsules which directly causes death, but I believe it capable of inducing consecutively a pathological modification of the blood incompatible with life.

If I have said that my patient lived in excellent hygienic conditions, it was because I was completely ignorant of what has just been told of his sordid avarice, to M. Bouillaud, by the Physician of the Ministry of the Interior. I know that inanition, resulting from insufficient food, may so impoverish the blood as to induce a deep cachexia; but nothing proves that it can produce the *bronzed skin*. For this disease to make its appearance, we must then have a special condition, a specific cause; and science is indebted to Mr. Addison for having discovered that here this special condition is a serious alteration in the texture of the supra-renal capsules. This is a capi-

tal point in the diagnosis as well as in the prognosis of cachexia; for Mr. Addison in specializing this cacochymical condition, has established that its termination is constantly fatal. Now, you know how important it is to us physicians, to have fixed ideas of the chances of curability, more or less great, of a disease.

M. Bouillaud.—I cannot help reproaching the experiments of M. Brown-Séquard, for wandering from the paths of positive physiology. What is then the function, in the economy, of the supra-renal capsules? This is what M. Brown-Séquard's researches in no wise establish. Since the functions of these organs remain yet unknown, on what then does he rely to attribute to their mutilation, or to their extirpation, such formidable functional disorders, which constantly end in death?

M. Trousseau.—Could not the reasoning of M. Bouillaud be applied to the functions so obscure of the spleen, and perhaps also to those of the pancreas, since M. Colin has pretended, contrarily to M. Bernard, that this organ had not for its special mission, to emulsion the fats. Such a system would lead to the most deplorable uncertainty and skepticism in physiology.

M. Gibert.—Is it not wonderful that a single physician should have had the good fortune of observing 60 cases of *bronzed disease of the skin*, when this affection had until lately attracted the attention of no other practitioner? My astonishment is so much the greater that these observations came to us from abroad. I shall undoubtedly be less astonished when similar observations have been made in France a sufficient number of times to render it legitimate to place the bronzed skin, with alteration of the supra-renal capsules, amongst special cachexia.

The dark pathological coloration of the skin is very rare. We may, I believe, distinguish two varieties of it. One is transient and lasts about a month. It seems to me to be due to an imbibition of the subcutaneous cellular tissue and dermoid rete by the blood, which rapidly alters in the parts exposed, like the face and hands, to the contact of air. It was on an affection of this kind that I formerly had occasion to read an essay before the Academy.

The other variety is that to which the case mentioned by M. Trousseau, and that observed in the wards of M. Cazenave, should be referred. I might perhaps add the curious case of a woman whose lips and a great part of the face became black after a violent and painful emotion. I lost sight of that woman too soon to know what was the consequence of that accident.

M. Trousseau.—I appreciate the sentiment of nationality which induces M. Gibert to place so great a confidence in the labors of our compatriots; but we would run the risk of becoming unjust if we did not also acknowledge the service rendered to science by foreign physicians. Mr. Addison is one of the most deservedly esteemed physicians of England, and his incontestable talent as an observer, joined to a great scientific probity, is a sufficient guarantee of the authenticity of the facts he advances. Mr. Addison is the compatriot and the friend of Mr. Bright. These two learned physicians have rendered important services to pathology. One by discovering a form of dropsy invariably connected with a serious and incurable alteration of the kidney; the other by pointing out a morbid coloration of the skin, which is always accompanied by cachexia and a profound lesion of the supra-renal capsules. Such physicians are worthy of all our respect and gratitude; they have well deserved of science, and of humanity.—*Gazette Hebdomadaire.*

Regions of Disease corresponding with Seasons and Zones of Climate. By Alex. Keith Johnson, F.R.S.

The surface of the globe may be divided into belts or zones, distinguished by great leading characteristics; as, I, the torrid zone, or belt of greatest annual mean temperature, characterized by the class of diseases which includes *dysentery, yellow fever, diarrhœa, malarial fevers,* and affections of the *liver;* II, the sub-torrid and temperate zone, of which *inflammatory diseases,* represented by *typhoid fevers,* are the characteristic maladies; and III, the sub-temperate, sub-arctic, and arctic zone, characterized by *catarrh* and *colds.*

I. The immediate dependence of the first class of diseases on heat and moisture, as important exciting causes, is shown by the circumstance that its maximum intensity corresponds with the countries situated under the line of greatest annual mean temperature, the assumed equator of heat of the globe (82° Fahr.); which line also intersects the region of greatest aqueous deposition. From this line, to about latitude 23° North, 53 per cent. of the deaths are attributable to this class of diseases; while in latitude 35° North, marked nearly by the line of 77° Fahr. in July, and on the boundary of the second zone, the amount is only 14 per cent.; and at the Cape of Good Hope, latitude 35° South, it is only 3 per cent. As far as can be ascertained, the mortality from the entire classes within this

zone amounts to 75 per cent.—the first and second causing 53 and the third 18 per cent. of the whole. The same law of decrease with the lowering of temperature is apparent in the seasons of their occurrence. In a series of dysentery epidemics, narrated by Ozanan, 36 occurred at the end of Summer, 12 in Autumn, and only 1 in Winter. Of 13,900 individuals seized with dysentery in Bengal, 7,000 were attacked in the warm and humid season, 4,500 during the hot and dry season, and 2,400 during the cold season. In Spring these diseases are more inflammatory in their character, and in Autumn more putrid.

The northern limit of this class of diseases is probably the Bermudas, latitude 32° North in the Atlantic; and California, latitude 38° on the Pacific Ocean, in America. In Asia it extends to near Pekin, latitude 40° North; and in Europe to the South of Spain. Its southern limits are—in America, Buenos Ayres, latitude 34° South, on the Atlantic, where, however, it is not severe; and Lima, latitude 12° South, on the Pacific. In Asia, the southern limit includes Aracan, Ava, and Ceylon, Borneo, and the other islands of the Asiatic Archipelago, and thence it extends to the northern shores of Australia. In Africa it includes the island of Madagascar. Within these limits the principal centres of these diseases are, in America, the shores of the Gulf of Mexico, the West India Islands, and the northern portions of North America; in Asia—India, China, Borneo, Ceylon; in Africa—the countries around the Gulf of Guinea on the West, Madagascar and Mozambique on the East, Algeria and the shores and islands of the Mediterranean on the North. Little is known of the perpendicular distribution of these diseases, except that in Mexico they are prevalent at an elevation of 7,000 or 8,000 feet; and in southeastern Asia they cease at an elevation of 6,000 or 7,000 feet above the sea.

II. In the inflammatory region, or zone, typhus fever, in its varied forms, of gastric, bilious, enteric, &c., fever, takes the place of the yellow and malarial fevers of the torrid zone; and in consequence of fewer of the population being cut off with these, more fall victims to inflammatory affections, of which consumption is the type. But that this latter form of disease is not peculiar to this region, or rather that it becomes more fatal as we approach the tropics, is proved by the fact that in England consumption is only fatal to 3.8 out of every thousand living, while Boston (U. S.) loses 4.0, Baltimore 4.1, Philadelphia 4.2, New York 4.9, and New Orleans 5.6 out of every thousand living.

In North America and Europe, the southern boundary of this group of diseases coincides generally with the northern boundary of the first class. In South America, it probably includes Patagonia. In Africa, it includes the Cape Colony; and it embraces the South of Australia, Tasmania, and New Zealand. In Asia, it is uncertain how far it extends to the eastward. Its northern limit in America includes part of Nova Scotia and Newfoundland; and in Europe the northern boundary includes the British Islands, Norway, and Sweden, to latitude 60° North, whence it appears to follow a southeastern direction, corresponding nearly with the annual isothern of 41°, till it gradually declines towards the borders of Asiatic Russia. These, however, are only to be considered as preliminary indications.

III. The boundaries of this group of diseases which is characterized by catarrhs, include the whole of Europe to the North of the preceding class. In America it extends South to Boston and New York, including the district of the Canadian Lakes. Thence it continues northwest nearly on the line of 41° annual temperature. Although very little is known of the diseases of Central Asia, yet when we consider the elevation of the surface, the vegetation and the conditions of climate, we may assume that this class of diseases extends there to about latitude 45°. Iceland is the best-known locality of this zone, and may therefore be taken as its representative. The island is visited by catarrh every year in Spring or in early Summer. It is also visited at short intervals by catarrhal fevers—a true influenza, which usually has a great effect on the mortality. Pallas says that the majority of Icelanders die before the age of fifty, from asthmatic or catarrhal affections of the lungs; and Crantz affirms that catarrh is a very prevalent disease in Greenland. Catarrh is also common in Labrador. At Okhotsk, in Siberia, it is accompanied with difficulty of breathing; and a cough, called "Ho," is endemic among the Samœids.—*Journal of Public Health, for July.*

Therapeutic Results in the Children's Hospital of Munich, under Professor Hauner. *Reported in the* Journal f. Kinderkrankheiten; 1855. *Translated from l'Union Médicale for March*, 1856: by M. Morton Dowler, M.D., New Orleans.

The distinguished Bavarian Professor has briefly recited his own observations touching the action of medicines by him employed in diseases of children. His judgment is of great value, not only from

his eminent ability, but from the fact that the hospital of which he is at the head, receives annually more than 2,000 sick children ; and during many years he has occupied the post of chief physician.

He sets out by recommending *vaccination* in cases of *nævus maternus ;* and recommends the inoculations to be performed not only all over the surface of the *nævus*, but even on the sound skin on the margin of the part affected.

1. *Chlorate of Potassa.*—Employed for many years with constant success in *stomatitis* and *ulcers of the mouth*, and in more than 70 cases. The results are wonderful ; for in four hours the penetrating, disagreeable odor of the mouth disappears, and the cure is rapid It is very valuable in diphtheritic affections of the mouth and throat, and in mercurial ulcerations ; but its value is less constant in these cases :—℞. *Potas. Chlorat.*, ℥ss–℥j ; *Aq. Distillat.*, ℥iij–℥jv ; *Syrup Alb.*, ℥ss ; *m. ft. mist. S. To be used in* 24 *hours.*

2. *Cod Liver Oil.*—Has been given in at least 200 cases of rickets, of every form ; all of which have been cured. The other hygienic and medicinal means, as baths, lotions, etc., have not been the principal curative means ; for, employed without the oil, the cure has not been effected. The oil is given in doses of from three to four dessert spoonfuls a-day. Gastric and diarrhœal affections, if existing, must be treated before giving the oil. In Summer, and during warm days, it is much less easily supported than in Winter, and in cool weather.

3. *Tincture of Artificial Musk (Musc Ambrée).*—In laryngeal spasm, uncomplicated. Nothing is said of either dose or formula. Employed with constant success in more than 30 cases.

4. *Arsenic.—Fowler's Solution*, in various cutaneous eruptions ; as the different forms of eczema, prurigo, psoriasis guttata, etc. The constitutional origin of these affections, is first sought out, and the treatment governed by the same. Those which resist the ordinary rational and empirical treatment, are amenable to arsenic. ℞. *Liq. Potas. Arsenical.*, ℥j ; Aq. Destil., ℥ss ; S. Take five drops, at first twice, and afterwards three times a day. At the expiration of one month, the Fowler may be given pure. Fatty and impure aliments must be avoided, and the patient must be warmly clad. Baths hasten the cure. No serious result has been observed from the medicine, but the existence of diarrhœa, either contra-indicates the use of the agent, or neutralizes the result.

5. *Nitrate of Silver* in the decline of *croup*, rubeolic cough, *in-*

flammatory angina, and in ophthalmia of the new-born. (*Abortive treatment.*)

6. *Sulphuric Acid, prepared; Elixir of Haller.*—This medicine, so readily taken by patients of all ages, has rendered the greatest service in typhoid, and exanthematous fevers; in diseases of the blood and of the vascular system, appertaining to scorbutic affections, especially in the *Spotted Disease of Werlhoff*. It is given with other appropriate remedies, by adding from ʒss. to ʒj. of the medicine, to from ʒjss. to ʒjvss. of the syrup of marsh-mallows, and adding a table-spoonful of this to the common drinks.

7. *Arnica.*—M. Hauner having witnessed the abuse of this remedy at the beginning of his career, completely laid it aside. Nevertheless, of late, he has used it on the recommendation of Dr. Schneider in three cases of *serious exudation*, in children notably scrofulous, but free from any specific dyscrasia. The first two were children brought to the hospital with pleuritic effusions, which had been misunderstood, having been regarded by Dr. S. as purulent. The debility was so great that thoracentesis could not be ventured upon. The ordinary treatment was unavailing. A complete cure was effected by arnica. M. Hauner obtained similar results in the city, in case of a woman of twenty years of age. The third child was attacked with an arachnoïdian effusion, with well marked symptoms; and which slowly disappeared.

In all these cases perseverance is requisite; for those affections do not rapidly yield. These four cases do not afford sufficient data on which to determine the value of arnica; but they afford new exemplifications of its value. Take of flowers of arnica ʒss–ʒj, or ʒjss. to make from ʒij to ʒijss. of infusion; to which ʒss of Syrup of Senega is to be added; and one or two dessert-spoonfuls are to be taken every two hours. The woman took ʒss of the flowers.

8. *Chinchona, Quinine.*—In intermittent fevers, used both internally and endermically. There exists yet another form of fever, nearly approaching typhoid, characterized by feebleness at the onset; and which calls for the employment of quinine. This is the *stupid typhoid fever* of the ancients; the *remittent fever of children, without localization*, of many authors. The diagnosis of the disease is very difficult. It is wanting in the usual dry and red tongue, the febrile pulse, the abdominal sensibility, especially the pain in the ilio-cæcal region, the distension of the belly, the typhoid stools, etc.; indeed, almost all the signs which characterize typhoid. It is not a cerebral affection; for the history, the primary symptoms, the condition of

the eyes, the absence of vomiting, the state of the abdomen, the position of the patient, the intervals of relief, all show the contrary. This disease is no more nor less than a peculiar species of nervous excitation in excitable children, which is most frequently found during the years of evolution. If unfortunately we have employed antiphlogistics, or purgatives, or if we have refrained from treatment, there results a long continued disease, wasting the patient with hectic fever; or, indeed, the disease may localize itself on the brain or lungs, according to the individual predisposition of the patient; and carry off the children by a secondary affection. Quinine is the true panacea against this fever.

Quinine has the most salutary influence in hectic fever, even when owing to the existence of tubercles. M. Hauner cites cases of six girls, from six to ten years of age, consumptives, situated under unfavorable circumstances, in which the cough, sweats, emaciation, (and pulmonary symptoms?) which had resisted other means, disappeared under the use of quinine. If quinine rarely cures such cases, it often gives relief.

Many of the neuroses, and sporadic affections, are also cured by quinine.

In *anæmia* of children, and *atrophy* from bad diet, etc., without localization or disorganization of an important organ, the extract of chinchona, cold prepared by maceration, renders the greatest service:—℞. *Ext. Chinchonæ*, gr. jvss–viij; *Aq. Flor. Anthemidis*, ʒx–ʒij; *Syrup Cort. Aurant.*, ʒss; *S. Two dessert spoonfuls every two or three hours.*

9, 10. *Chamomile*, and *White Decoction.*—The first in an especial manner relieves colic brought about by an accumulation of gas in the intestines, and it acts as a carminative. The second is a pure mucilaginous substance, indicated in case of bronchial and pulmonary irritation, from what cause soever it may originate. Chamomile is generally employed in *baths*, containing half a handful, or in *injections*, one to two ounces of the medicine infused in from two to three ounces of water.

11. *Columbo.*—In habitual diarrhœa of children and adults. In children, improper nourishment gives rise to a catarrh of the small intestines, or a dysenteric colitis, and from the same cause there is finally developed a state of laxity, and atony of the intestines, manifesting itself by a diarrhœa which is sometimes serous, at others liënteric, which ends in atrophy. This condition does not yield to either calomel, nitrate of silver, or rhubarb; but is sometimes cured

by the mild, ferruginous preparations, but especially by the prolonged use of columbo.

℞ *Rad. Calumbæ*, gr. viij–℥j ; *Aq. Destil.*, ℥j–℥jss. ; *cogue et adde, Syrup Cort. Aurant.*, ℥ss. *S. Take two dessert spoonfuls every hour. Or, thus :* ℞. *Ext. Calumb.*, gr. jvss.–gr. vj ; *Aq. Cannel.*, ℥j–℥jss ; *Syr. Cort. Aurant.*, ℥ss. *S. To be taken as the preceding mixture.*

12. *Iron.*—M. Hauner employs iron but little. The tincture of the malate of iron, is prescribed in cases of *anæmic* conditions, when there is absence of diarrhœa, febrile excitement, and dyspepsia. The syrup of iodide of iron, has proven advantageous in certain cases of scrofula, in cases of extremely feeble children. Thin attenuated children having a predisposition to pulmonary scrofula, do not well support it, the cough and irritability of the lungs being aggravated by its use.

13. *Jalap.*—One of the best purgatives in cases of children. Children affected with scrofula, ophthalmia, chronic cutaneous eruptions, intestinal worms, slow and irregular digestion, etc. ; children of a sluggish habit, large belly, dry skin, slow and indisposed to action, are much more speedily cured when the treatment is begun by an active purgative of jalap and calomel. Neither calomel alone, nor senna, nor aloes, is capable of exciting evacuations as abundant, and as derivative as jalap.

14. *Ipccacuanha.*—As an emetic, its efficacy is well established in many diseases, as *whooping-cough, catarrhal fevers*, in cases of very excitable feeble children, predisposed to diarrhœa. In small doses this root renders the greatest service in cases of *bronchial catarrhs*, and Spring and Autumnal catarrhal affections accompanied with great irritability of these organs, with cough, mucous *râles* in the bronchial tubes, and difficult expectoration, especially when these conditions are complicated with intestinal catarrh.

℞. *Rad. Ipecac.*, gr. ij–gr. jv ; *Aq. Bullient.*, ℥jss.–℥ij ; *Macera et Cola ; dein adde Syrup Alb.*, ℥ss. *S. Take two dessert spoonfuls every two hours.*

℞. *Rad. Ipecac.*, gr. ij ; *Rad. Rhei*, gr. jv ; *Aq. Bullientis*, ℥jss ; *Macera et Cola ; adde Syrup Senegæ*, ℥ss. *S. Take a dessert spoonful every two hours ; or give in powder, from* gr. ¾ *to* gr. jss, *with sugar and milk every two hours.*

Ipecacuanha is one of the best remedies in *diarrhœas*, frequent with young infants in the hot season. (Summer diarrhœa, dysenteric diarrhœa.) *An infusion of* ℥jss. to ℥ij *made with* gr. viij *of Ipecacu-*

anha, with the addition of ʒss. *of the Syrup of Poppy, given in doses of two dessert spoonfuls every hour.*

Creosote.—Extraordinary means are to be employed only in extraordinary cases, in which the diagnosis is not positive, and in which we are compelled to treat for the more prominent symptoms. To this categary belong two cases of *vomiting*, which, resisting every other means applied, yielded to the following potion : ℞. *Creasoti, gutt* ij ; *Aq. Destillat.*, ʒjss. *Syrupi Albi.*, ʒss. *S. Take two dessert spoonfuls every hour.*

16. *Aqua Lauro-cerasi.*—The organism of children is subject to revolutions in cases of irritable subjects, so often badly nourished and badly treated, and to subacute and congestive affections, which not unfrequently manifest themselves in the head, chest, and spinal marrow, with symptoms of nervous irritation, simulating to a certain extent, cerebral hyperæmia, pneumonia, carditis, myelitis, of which diseases there are only wanting the local pathognomonic signs. The spasmodic pulse, the extreme irritability, the dry skin, the heat, the general agitation, the violent palpitations of the heart, the fatiguing dry cough, under the influence of the *Aq. Laur. Ceras.*, are subjected to a calmative which is unequalled in efficacy by any other medicine. These conditions are moreover frequently met with. This water is still more efficacious in the spasmodic and convulsive cough of children, and in that of consumptives. ℞. *Aq. Laur. Cerasi., gtt.* vj–x–xx ; *Syrupi Albi*, ʒj ; *S Take a dessert spoonful every two hours.*

17. *Opium, Morphine.*—These agents are not frequently employed by M. Hauner. In the *diarrhœas*, he treats with opium only those which are the most obstinate ; and he uses it in dysentery. He administers it in very minute doses, combined with calomel. ℞. *Pulv. Opii*, gr. $\frac{1}{30}$–$\frac{1}{15}$; *Calomel*, gr. $\frac{1}{10}$–$\frac{1}{5}$; *Sacchari Lactis*, gr. viij ; *m. ft. Pulv. S. A powder such as this every four hours.*

Its use as a calmative is more general ; as in *colic pains*, in neuralgias, in *insomnia* and *nocturnal cough* of consumptives (morphine), the cough of the nervous period of the whooping-cough, in non-irritable and phlegmatic children. As an external application, laudanum enters into the composition of numerous collyrii ; is used for the dressing of numerous atonic ulcers, in which it favors the formation of healthy granulations ; is used in *spina ventosa, caries*, etc.

18. *Lichen Islandicus.*—Employed as a tonic in mucous affection of the lungs.

19. *Walnut Leaves.—Feuilles de Noyer.*—Long experience has

proved to M. Hauner that in *scrofulous affections*, cod-liver oil, so generally recommended, is without effect ; that iodine, so very efficacious in certain diseases, the chloruret of barium, antimonials, etc., stand at zero, whilst the walnut leaf, newly dried, shows a decidedly advantageous action. (We do not concur in this condemnation of cod-liver oil ; nor as to the infrequency of the good effects of iodine in these affections.—*French Translator.*) (We have derived excellent results from iodine administered simultaneously with iron.—*Am. Trans.*)

The principal indication for the use of walnut leaves, is in cases of torpid, sluggish, and inactive children, in scrofulous ulcers, otorrhœa, chronic, scrofulous, cutaneous eruptions, in atony and engorgements of the lymphatic system. It need scarcely be remarked that the proper hygienic measures ought to be concurrently adopted.

20. *Rhubarb.*—This root will ever find a place in the treatment of children. In young children with affections of the digestive organs, characterized by a tardy expression of the meconium, by icteric symptoms, by non-febrile dyspepsia, etc. ; in short, conditions known under the names of apepsy, flatulence, acidity, gastricism, caused by feebleness of the digestive organs, the consequence of bad alimentation, are cured readily with one or two dessert spoonfuls, daily of syrup of chickory with rhubarb. But it must not be given in febrile affections, and in diarrhœa, unless they be purely gastric. At a more advanced age, we increase the activity of the syrup of rhubarb, by adding to it the aqueous tincture of this substance. This combination is prescribed in affections of the liver and spleen, and to close the treatment of intermittent fevers, etc. Infusion :—℞. *Rhei. Contus.*, gr. ijss–gr. viij ; *Aq. Bullientis*, ℥jss–℥ij ; *macera et cola. Solution of Extract :*—℞. *Ext. Rhei*, gr. ijss–viij ; *Aq. Fœniculi*, ℥jss–℥ij ; *m. ft. solutio*—this being one of the best stomachics for children artificially nourished.

21. *Senna.*—With children, rhubarb ordinarily supersedes senna ; nevertheless, cases occur in which the more energetic action of the latter is to be preferred ; and we generally employ it in the form of the Vienna Laxative. Such cases are cerebral inflammations, and congestions in torpid children ; obstinate constipation, having its origin in gastric causes, helminthiasis, the onset of gastric fevers and febrile exanthemata, especially scarlatina and variola, in which it is well to avoid calomel.

22. *Senega.*—In *Croup*, neither at its onset nor at its acme, has it any favorable action ; but it is useful at the period of resolution of

the disease, and in consecutive affections ; it acts well in the laryngitis which follows measles. In the secretive period of *whooping-cough*, in *chronic bronchitis*, with abundant and tenacious accumulation of mucosity, in catarrhal and typhoid pneumonia, and especially in rachitic infants.

The decoction may be prepared by boiling from gr. viij to ʒjv of Senega root, in a sufficient quantity of water, so as to make from ʒjss to ʒij of the decoction, to which may be added ʒss of the syrup of senega, or the medicine may be prescribed in the following form.—℞. *Syrup Senega, Syrup Ipecac., Syrup Glycyrrhizæ*, aa., ʒss. *S. Take two dessert spoonfuls every hour or every two hours.* [This seems to us a large dose for children.—Ed. Am. M. M.]

23. *Valerian Root, Carbonate of Magnesia.*—These two agents are much employed ; especially in the form of a compound powder, much used in germany, but almost unknown with us. It is called the children's powder, the *pulvis puerorum ;* for the preparation of which there are various formulæ. The fermula preferred by M. Hauner, is according to the manner of Hufeland, except that the oleo-saccharum of fennel is superseded by the sugar of milk. The following is Hufeland's formula;—℞. *Magnesiæ Carbonatis, part.* xvj ; *Radicis Rhei, part.* vj ; *Radicis Valerianæ, part.* j ; *Fœniculi Oleosacchari, part.* viij ; *m. ft. pulv. Let there be taken, according to the age, what will lay at two or three times on the point of a penknife, daily.* However irregular this compound may seem, it is, nevertheless, very valuable ; and is very frequently employed. The valerian, by its essential oil, its extractive principle, and its peculiar acid, acts as a tonic on the nervous system ; while the magnesia as an antacid, corrects the acridity of the gastric and intestinal secretions : the part which is acted by the rhubarb is well known.

24. *Mercury*, principally *Calomel.*—The action of mercury is especially resolvent, promoting the secretions ; and hence its frequent employment with infants, in which the diseases of organic life are so numerous. M. Hauner especially prescribes calomel in cases of *cerebral affections*, in *idiopathic meningites*, hyperæmia occurring at the period of dentition, in robust children, in *convulsions*, eclampsia, caused most frequently at that period, by cerebral irritation. In these cases the calomel is given in free doses, say from gr. $\frac{1}{2}$, to gr. jss.

The reputation which mercury formerly possessed in cases of *hydrocephalic diseases*, has vanished before a more correct diagnosis of such cases. The granular affections of the meninges and their

result, acute hydrocephalus, are neither cured by calomel, sublimate, nor any other means; and the reported cure in such cases, is founded in error.

Calomel renders important service in all inflammations in which there is a tendency to plastic deposits, and exudations into the internal cavities.

Its favorable action is shown further in *intestinal catarrh* of children, attended with pain, great sensibility, and distention of the belly, with diarrhœa, sometimes abundant, but more frequently moderate. Secondary cerebral symptoms often complicate such cases, sometimes with somnolence and heaviness of the head, at other times with crying and insomnia, attacking especially children badly nourished and at the same time suffering from dentition. Emaciation and leanness do not contraïndicate calomel, though it is important to bear in mind the treatment appropriate to each special case. In affections of the large intestines, characterized by frequent evacuations, with tenesmus and violent, painful efforts, accompanied with cerebral symptoms, often convulsions, even to tetanic cramps, in this true *dysentery*, calomel is the agent specially indicated; and will alone effect a cure. We give from $\frac{1}{6}$ to $\frac{1}{2}$ a grain for a dose, every four or five hours, alone, or associated with feeble doses of opium, say from $\frac{1}{30}$ to $\frac{1}{15}$ of a grain.

Numerous children have been brought to the hospital suffering from the abuse of the infusion of poppy heads. Insomnia, wasting, dryness of the skin, and trembling, showed themselves, owing to narcosis and hyperæmia of the brain. Calomel in the small doses of from $\frac{1}{6}$ to $\frac{1}{2}$ a grain, continued for a long time and aided by cold lotions to the head, has rendered great service in such cases.

As an anti-syphilitic, M. Hauner employs the soluble mercury of Hahnemann with the greatest success, while every treatment, as with iodine, sarsaparilla, etc., has had absolutely no effect. In persisting in his plan of treatment for sufficient length of time, he has secured the permanence of the cure.

25. *Belladonna.*—It always has shown its value in whooping-cough. Nevertheless the last epidemic appeared to be refractory under its use, which M Hauner explains on the peculiarity of the epidemic, characterized by prolonged catarrhal prodromena, a short spasmodic stage, and a long continued terminal cough.

26. *Tartar Emetic.*—This salt in a single dose of from gr. $\frac{1}{3}$ to gr. ij, according to the age, has often a wonderful effect in *pneumonia*, especially the catarrhal, in broncho-pneumonia, in croup, etc. In

case of sanguine and robust infants, in marked inflammation, we must employ it after abstraction of blood, and without the latter, in case of feeble and scrofulous children ; but diarrhœa and diseases of the digestive apparatus, contraïndicate the use of the antimonial. Though its use is less admissible in pure *gastric affections ;* an accumulation of mucosity in the stomach is one of the complications of catarrhal affections of the respiratory organs and in which it may be admissible.

In doses of from $\frac{1}{30}$ to $\frac{1}{6}$ of a grain, the tartar emetic increases the activity of the secretions and excretions of the skin, lungs, kidneys, intestines, and is indicated in a host of diseases, such as catarrhs, rheumatic, eruptive, and inflammatory fevers, active inflammations, especially of the respiratory apparatus, pulmonary and bronchial catarrhs, and blenorrhagias ; affections of the liver and biliary ducts ; acute rheumatism, erysipelas, etc.

27. *Cold Water.*—The limits of this article, notwithstanding the importance of the subject, will not permit us to give the details in relation to the use of the agent. M. Hauner refers constantly to articles on the subject previously published, and which we are not in possession of. We can only remark that he employs this agent according to the principles of hydrotherapy in many diseases, and with great success ; such as typhoid affections, croup, the dermatoses scrofulous affections, rickets, diseases of the nervous system, etc.

28. *Cold Baths ; Injections.*—These are daily used in a great number of affections, the baths and injections being either simple, medicated, or nutritive ; these latter being composed of froth and the yolks of eggs. In general the indications have nothing special which is not well known ; but M. Hauner employs these means much more frequently than most practitioners, and he extols them excessively.

M. Hauner says nothing of embrocations, sinapisms, and blisters, as he rarely employs them.

Although the preceding article deals in many facts which are already measurably known, we have not hesitated to thus give it at some length It is a summary of the habitual practice of one of our greatest German specialists, who from his position, at the head of a great infantile hospital, is well able to pronounce on the real value of medicines. With this view we give the article entire..—*N. O. Med. and Surg. Journal.*

EDITORIAL AND MISCELLANEOUS.

Since our last issue, the several Schools of Medicine in this city have commenced their Winter courses, and the usual introductory lectures have been delivered. The evening of Monday, Oct. 13, Prof. Draper opened the session at the University, and initiated the lecture season, by discussing the natural history of quacks. He divided his subject into two parts: first, the *quack;* and second, *his patrons.* "He might select," he said "any of the prevailing medical impostures, and use it as illustrating the remarks to be made. As a more efficient mode of attaining the result he desired, he would call their attention to one of those delusions now dead and gone. He referred to that of the medicated electrical tubes, which were in vogue about a hundred years ago. At that time it was simultaneously announced in Germany and Italy, that if there was inclosed in a glass tube, a drug or medicine of any kind, and the tube was then made to give out electric sparks, by rubbing it with a piece of soft, dry silk, whoever received these sparks in any part of his body would be forthwith affected thereby, in the same manner as if he had swallowed a dose of the same drug. The reputed cures effected by this means were testified to by a great amount of personal evidence. Of this kind of evidence it was to be remarked that from its very nature it was barely possible to controvert it. Time alone could dispose of such questions—time, which had settled the imposture of the medicated tubes, and which would settle in their turn the like impostures of our days. It was only the evidence of the competent and enlightened we could trust; that of the ignorant and interested, who constituted the great bulk of the indorsers of every empiricism, was worthless. It was against that self-sufficiency of judgment—that flippant ignorance of consequences—that the moralist might well protest. The patrons of the quack went on as if health and life might be trifled with at pleasure, until their thoughtlessness interfered with the anxious reflections, the watchings, the deep study, the reluctant advice of the good physician, so that it might be truly said of them, that

'Fools rush in where angels fear to tread.'

The only mode by which quackery could be neutralized was by extending the domain of medical knowledge, and to effect that, reliance must be placed on the young men now entering or preparing to enter the profession. Far from supposing that there were many things in the structure and functions of the body which we

could never comprehend, he believed that there was nothing in it which they would not at last explain, and then, and not till then, would it be a perfect monument of the wisdom and power of the Creator. In the application of the exact science of physiology, he looked for the rise of that great and noble practice of medicine which would lead inevitably to the final extinction of empiricism. Even now, that method was attended with results which must commend it to every thoughtful man, since it had connected itself with those great truths which concern the human family most closely, and was bringing into the field of physical demonstration the existence and immortality of the soul of man, and was furnishing conspicuous illustrations of the attributes of God. The day was coming when the quack in medicine would depart to the same place to which had journeyed the astrologer, the alchemist, and when he would rejoin his comrades in that limbo, large and broad, of which Milton spoke —the paradise of fools."

On Wednesday evening, Oct. 15, at the New York Medical College, Prof. Barker welcomed the new class to their halls. His subject was one full of interest and encouragement to the medical scholar, who is just entering upon the study of the profession he has chosen for the aim and object of his life. It might be called the biography of a physician's life, for the Professor first sketched the medical student as he appears upon his arrival in our midst, regarding them as a class *sui generis*, and hit off with much aptness and very amusingly, many of their peculiar manners. Then passing from considering them as a class, he addressed them personally upon the step they were about to take, and inquired if they had well considered the purpose for which they came thither. He spoke of the toils, the struggles, the deferred hopes, the gradual dawnings of success, and the final crowning glory of a fortunate professional career. He traced the progress of the medical sciences as necessarily corelative with advancing civilization. Commencing with Egypt and passing over the republics of Greece, he glanced at the fact that the earliest nations had cultivated medicine successfully. But now this is all changed. Confidence, based on a general high appreciation of medical knowledge, is not felt by the mass of mankind in the medical profession. Among the progressive portion of mankind, confidence, founded upon a blind reliance upon prescription and authority which led men to accept on trust many opinions without any other foundation, is no longer reposed in anything. Neither in law, government, morals, nor religion, is such authority recognized.

He observed that physicians do not attain that reputation which the same talent and industry would secure for them in other walks of life. John Hunter is less known than Lord Mansfield, Laennec much less so than Davy. Still no confidence is so implicit as that reposed in the physician. Nevertheless, though we cannot, like the preacher, lawyer, or legislator, acquire a reputation co-extensive with theirs, we may secure by a diligent performance of our humbler, but not less useful duties, an interest in the hearts of a smaller circle, which may be more gratifying than the cold applauses of a whole people.

Even rare qualifications of nature and education, except under circumstances uncommonly favorable, enable a man only to make but gradual progress.

Dr. Baillie, of London, remarked that he had never known a physician, who, from any cause, acquired business rapidly in London, who permanently retained it. If it be rapidly acquired, this must be accomplished by means independent of those which give a firm hold on the confidence and affections of patients, for they cannot at once be displayed, nor can they at once have their full operation. Sir Astley Cooper's receipts from his first year's practice, were $26 ; the second year, $130 ; and so on, until on the ninth year it amounted to $5,500. Afterwards, his receipts ran up in one year to the enormous amount of $115,000. Dr. Hope, with a well-known London reputation, made $1,000 the first two years. The third year, the accidental removal of some families who employed him, reduced his practice to $750. In eight years, when he retired from business on account of the failure of his health, he was making $20,000 per annum. Sir Henry Halfourd, whose practice was more lucrative than any physician of London ever before enjoyed, or will ever enjoy again in all probability, told him that if he made $5,000 per annum by the time he was forty, he might feel certain of obtaining the first success that the profession could offer. Dr. Hope's career terminated at forty, and he was then making four times as much as Sir Henry Halfourd had led him to expect. An amusing anecdote is told of a wealthy man in London, who visited Edinburgh for professional advice in regard to some disease of the heart. He was then told to consult Dr. Hope, who was the highest authority in these diseases. What !—said he, as much surprised as was Naaman, when told by the prophet that he must wash in the river Jordan for the cure of his leprosy,—the man who has lived next door to me in London, for the last five years. Dr. Cheyne, of Dublin, at 34 years of age, made

only three guineas in the first half of his second year's practice. Nine years subsequently, he was making £5,000 sterling, annually. Dr. Chambers, when 34 years old, and in his fifth year of practice, made £211 ; seventeen years subsequently, he made £9000, or $45,000, annually. But such success as this, is attained by very few, and in fact, by none in this country."

The Professor, as an offset for the toils and disheartening scenes through which the physician had to pass, then drew a picture of its pleasures, of its triumphs, and made a comparative statement of the position of the Medical Profession.

"And now, gentlemen," he remarked, "are you satisfied with the picture I have drawn of the medical profession? Are you convinced of the wisdom of your choice in selecting this for your profession? It is not for me to decide as to your fitness and qualifications for this noble calling. You have given one proof of it, in coming to New York to receive your medical education. Here, society of the most refined kind offers its banquets to the mind, with such variety as never to satiate ; and new objects of interest and ambition, are constantly exciting attention. Here is the grand theatre of intellectual activity, the field of every species of enterprise and exertion, the metropolis of business, of thought, and of action. As it is the grand centre of everything else, it must become the grand centre of medical teaching. The first intellects in the profession are and must be drawn here. Fifty years hence, New York must be the metropolis of medicine for the world. Now it offers facilities for the study of practical, of clinical medicine, such as can be found nowhere else on this continent. We have material in abundance. Look at the public institutions of the city accessible to students, where disease can be studied in all its varieties. The Emigrants' Hospital, where nearly 16,000 patients were treated during the year 1854. I have not the report for 1855, as I have of the following Hospitals : Bellevue, where nearly 7,000 were treated ; the Hospitals of Blackwell's, nearly 3,000 ; the Nursery Hospital, 2,300 ; the New York Hospital, about 4,000. Besides these, we have St. Vincent's, the Woman's Hospital, the Ophthalmic Hospital, the Eye Infirmary, and five Dispensaries, thirteen cliniques connected with public instruction, besides several private ones. On the whole, not less than 120,000 patients, ill with every disease that flesh is heir to, are accessible to students. There is no disease known to this continent which may not be studied here in all its aspects. There is hardly a surgical injury, the management of which cannot be watched under as able

surgeons as are to be found in any part of the world. I do not hesitate to say that the young man who passes a year in New York, who diligently improves every opportunity for study and observation, acquires an amount of educated experience more than equivalent to ten years of ordinary private practice. Clinical instruction has become systematized, and thus practice is combined with teaching, and a facility in the application of theoretical knowledge to practice, is rapidly obtained. The honorable rivalries subsisting between the three schools, stimulate all, both teachers and pupils, to the most active exertion, and thus all are benefited thereby.

The institution which you, gentlemen, have selected, is young, only a few years growth, healthful in aspect, of a vigorous constitution, and therefore full of hope for the future. On our united efforts will depend whether such hope shall bear abundant fruit or decay. My colleagues will yield to none in an ardent desire to promote your interest, while they advance that noble science to which their lives are devoted. Without denying the merits of other schools, which indeed I am most happy to acknowledge, we may fairly contend that a new school has the advantage of being unhampered by any prejudice, and is free to adopt the very best means of advancing the interests of students. There is also a fund of energy and vigor, always attaching to new undertakings of a sound character, which extends not only to teachers but to students. In a branch of knowledge so rapidly progressive as medicine, the youngest "as the latest seed of time" is in reality the oldest, having the longest experience of the past to fall back upon, the most intense realization of the present, and the fullest property in the future. At the beginning of an ordinary medical year, it has been customary to enlarge upon the duties lying immediately before the student, to indicate the best methods of study, and the facilities afforded him for the acquirement of professional knowledge, and to lay down those rules which should guide him in his social and moral conduct. But these topics have been treated by others so ably and so repeatedly, that I feel it would be presumptuous to hope that I would present anything new or striking upon such points."

At the College of Physicians and Surgeons on Monday evening, Oct. 20, Prof. Gilman performed the duty of greeting the new medical class. He chose for the subject of his address, the relations existing between the legal and the medical professions. Before entering, however, upon the consideration of this subject, he paid a merited tribute to those young men who had perished in the discharge

of their duty, from disease contracted while in attendance at the various hospitals in our city. Their names, fourteen in number, have been engraved upon a tablet which is placed to their memory upon the walls of the lecture room We have already alluded in a previous number of the MONTHLY to this tablet, and have given the names of these martyrs in the cause of humanity. After this feeling tribute, the lecturer proceeded to the discussion of his subject proper, and spoke of the slight regard doctors had for lawyers, and the equally slight respect lawyers had for medical men. He spoke of the delight of the legal man, in making the medical witness uncomfortable, by showing up any inconsistency he might be guilty of by means of sharp cross-questioning.

This antagonism, the Doctor said, ought not to exist. "Why," said he, "should they not treat each other as scholars and gentlemen, instead of seeking to engender bitter feeling towards each other? His object on this occasion was, he remarked, to endeavor to do away with this prejudice." In searching for the cause of this reciprocity of bad feeling, he thought medical men were themselves, in a great measure, to blame. A wrong idea possessed them as to the duties and responsibilities of the other profession. They generally thought a lawyer should only defend that cause which he deemed just, whereas it is his duty to see that his client has a fair trial, leaving the decision to the Court and Jury.

Another cause of the differences between them arose from cross-examinations. The loud dictatorial manner in which physicians were addressed by lawyers—even the most respectable among them—was highly offensive, and bred a feeling of disrespect. The various means employed by the examining lawyer, to confuse the witness, and thus draw forth some discrepant statement; to throw doubt upon the credibility of his evidence were the shafts of the legal examiner, proper for his use, but disagreeable, annoying, and perplexing to the medical witness.

But the medical man should not get angry on account of these vexations. An insolent manner should be met by a studied politeness, for nothing puzzles and disarms the vulgar man like politeness. His brutality shrinks before it, for he knows not what to do with it or how to meet it.

Because a lawyer attempts, or even succeeds, in making a medical witness contradict himself, it should not enter the mind of the witness that he is, on that account, supposed to be guilty of perjury. Not at all. If a testimony is fortified against the keen attacks of a

strong cross-examination, it is so much the better for the cause it sustains. The lecturer wished "to guard medical witnesses from becoming partisans on the side for which they appeared. They were merely required to testify, without bias, either for one side or the other. The true plan was, for them to cherish entire indifference as to the result of their testimony, being in no way responsible therefor." A great source of error with physicians, which is frequently the cause of the contradictory examinations, is professional pride. They fear to confess their ignorance upon some of the points upon which they are examined. They dread the honest acknowledgment "I do not know." The attempts to hide their want of knowledge, when revealed by the keen and searching criticism of the lawyer, subjected them to ridicule and shame, and gave rise to the bitter feelings and differences already mentioned. "How much better," said the lecturer, "to escape all this by the frank admission 'I do not know.'"

From this general view of the subject the Professor then proceeded "to consider the nature of medico-legal evidence touching insanity. The difficulties of the subject were," he said, "aggravated by the very uncertain state of the law on insanity. The legal profession was eminently conservative. The Law was afraid of progress. Medical Science, on the other hand, was eminently progressive. If you spoke to a lawyer about insanity, he would quote Sir Matthew Hale or Lord Coke—men deservedly eminent in their day, which was two hundred years ago. Ask a doctor about it, and he would not quote authorities that were two centuries old. But many lawyers even deny that doctors can know anything about insanity, and the court often sustains them. Lord Denman has done so in England, and it had so been held in this State. Whether insanity was a disease of the mind or of the body, was a question which had been argued for years. If it was a disease of the body, then, doubtless, those who made diseases of the body their study were competent to judge of it. And could it be a disease of the mind? Was it possible for the mind, the subtle essence which has neither members nor parts, to be diseased? We must place the essential seat of insanity in the body and not in the mind. It had been objected that we could not detect lesion of the brain in an insane man, but who doubted that neuralgia was a disease of the body, and yet the scalpel cannot detect the lesion of the nerve. The right way, as a medical witness to insanity, is to tell the Court that it is impossible to give any accurate definition of insanity. His (the

speaker's) own definition was, that insanity is a disease of the brain by which freedom of will is impaired. It was best to use, in the first instance, general terms only, as 'he is insane,' and to avoid any precise definition as much as possible. Above all things, avoid the use of technical terms. Technicalities are always in bad taste. They tend to provoke Counsel, Court, and Jury, for men don't like to be addressed in terms they do not understand.

"The law had only one test for insanity, which was that a man could not be insane if he knew at the time of committing the act charged against him that he was doing wrong. Now the utter fallacy of this had been known to the medical faculty for one hundred years—it being well proved that many insane people knew perfectly well that what they were doing was wrong. A medical witness should ignore the fiction of the law in such a case and say, 'I suppose he knows the difference between right and wrong; most insane persons do.' Moral insanity was pertinaciously ignored by the Bench and the Bar, but medical men knew perfectly well that it was the result of disease of the brain. Yet," continued the Professor, "if I state my knowledge to the Court, I am told that the law does not believe in it, because Lord ELDON is against me, and if I do not see the worth of Lord ELDON'S opinion in this particular question, the Court says to me, 'My dear sir, there is Lord COKE,' and if I am not satisfied with COKE, they bring Sir MATTHEW HALE down upon me. Now medical science has established beyond the possibility of doubt, that moral insanity, those blind instincts, which drive a man or a woman to the commission even of fiendish acts, is an entity, and if the law chooses to ignore it, and hang a poor wretch so afflicted, we must be thankful that it is a very rare disease, and that but few of ourselves are likely to be attacked by it."

The brief synopses we have been enabled to give of the introductory lectures as above, present a very inadequate idea of their true literary and scientific character. They were listened to by large audiences of physicians and students, and are the starting points of the Winter's labor for both students and professors.

As far as we have been able to learn, the classes equal, or even exceed in number, at this time those of previous years. The representation made by Dr. Barker in his address of the large number of patients in our public charities, shows the great advantage the student enjoys in New York as regards clinical instruction. Many of the Professors are physicians to the Hospitals and Dispensaries, and this double advantage to students, of both clinical and professorial

instruction, is not met with to such an extent elsewhere in this country. Certainly if the efforts of medical teachers deserve success, those of our schools do, and for the accomplishment of it we would urge upon their consideration, concert of action as regards all those steps which it is for their common interest to take, for they may be assured they will find, in this as in other affairs of life, that in union is strength. D.

Congress of German Naturalists and Physicians, held at Vienna, from the 16th to the 22d of September, 1856.

As early as 1815, Oken perceiving the advantages which science might gain from an annual congress, judging, too, that Germany, in a higher degree than any other country, stood in need of scientific unity, and encouraged by the results of a reunion which the Swiss *savans* had just held,* Oken proposed in his journal (the *Isis*) to establish in Germany an annual congress, to which the different States of Europe should send representatives. His proposal received at first but little support, and his efforts were obstructed by ill-feeling. It was not until 1822, that he was able to gather together a few friends at Leipsic, and to prepare the by-laws of a society which was in the future to undergo considerable change.

The word *society* is scarcely appropriate; it was rather an interview in a place appointed beforehand of all those in Germany, in Europe, in the whole world, who were devoted to the natural sciences, to medicine—in one word, and as a better rendering of the German expression *Naturforscher*, of all those who interrogate nature and study her laws.

Oken desired to correct the literary manners of the *savans* of his own time; he wished to offer some remedy for the rudeness and harshness by which different scientific productions were marred. He hoped, by furnishing to the writers the means of becoming well acquainted with one another, to facilitate scientific relations, to substitute urbanity and kind feeling, in place of the harsh expressions and rude severity of authors, and, as says the protocol of the first meeting, to improve the character of the *savans* by creating friendly relations. Oken had still other views and other hopes. He designed by means of these reünions to bring together an assembly of

* Gosse (of Geneva) founded, in 1815, a général society of Swiss naturalists. It met in 1816, at Berne, the seat of the library; in 1817 at Zurich; in 1818 at Lausanne, etc., etc.

leading writers, to succeed in uniting in one body the scattered documents of German science, and to give them publicity by means of encyclopedias, dictionaries, etc., enterprises to the success of which many persons are indispensable, and which it is difficult to commence through correspondence with strangers. In a word, by means of the union and affection which he desired to arouse, he hoped to see German scientific unity take the first place in European science.

On the 18th September, 1822, therefore, twenty members founded the society at Leipsic. Oken, Carus, Purkinje, Reichenbach, were its illustrious members. Its laws were prepared by F. Schwägrichen and G. Kunze; and, incomplete as they are, they have remained until the present time, in spite of the attempt which was made at Mayence, in 1842, to change them.

The society, which took the name of "Society of German Naturalists and Physicians," aims, so say its laws, to afford to German *savans* the opportunity of becoming personally acquainted. The titulary member must be an author, and must have published something besides an inaugural dissertation. In addition to the titulary members, all those who have devoted themselves to the sciences, to natural history, or to medicine, are admitted to a participation in the reunions and the pleasures of the meetings; but the members of this latter class have neither the right to make public speeches nor to vote. The place of meeting is changed every year, and the reputation of the society has insensibly increased ever since its foundation.

Two masters of ceremonies (or managers) have the care of preparing and facilitating the approaching reünion, and busy themselves with the invitations, the preparations, the lodgings, the reception of guests, &c. They open the congress, and they alone have the right to sign the name of the society. The latter possesses neither property nor collection. The taxation of the members taking part in the congress, and the generosity of the different governments afford a sufficient sum to pay all expenses. Collections, museums, galleries, are placed at the disposal of visitors, and, in general, strangers are welcomed with the warmest hospitality.

It is the second time that Vienna has the honor of gathering within its walls the German *savans*. In 1831, as well as in 1855, the cholera caused the congress to be deferred one year. Twenty-four years separate the tenth reünion from the thirty-second, and in place of the four hundred and eighteen naturalists of 1832, the number of visitors rises this year above fifteen hundred.

The congress held at Göttingen, in 1854, delegated to Professors

Hyrtl and Schrötter the flattering duties of managers. To their invitation Germany and the principal countries of Europe have eagerly responded. Russians, Italians, and English, compose the majority. France sends but few delegates. At Fribourg, in 1838, there were sixty-two. In 1856, the number of Frenchmen does not exceed twenty.

This is the congress to which our friend Dr. Glück was accredited by the American Medical Association. We published a short letter from him last month, written from London, *en route* for Vienna. Since then we have received a private letter from him, informing us of his arrival at Vienna, and his welcome reception there. He writes :—"I am very much satisfied to have been present here. The managers received me by saying that they are happy to see that America has remembered the society. I received all possible courtesies in and out of the society, and much attention from Surgeons and Opthalmologists. On our entrance no baggage was examined. Our passports were sent to the Minister's rooms, where cards were distributed valid for remaining in town, making excursions, &c. Foreigners have always had the preference in receiving admissions to concerts, balls, &c. Everything went on very smoothly. Even the medals which were distributed yesterday were given to us while the Viennese had to wait for theirs."

We expect to be able to present next month a detailed account of this congress, furnished by our correspondent Dr. Glück. The historical account which we give above of the origin and progress of this Association, taken from a French journal, will serve as an introduction to the history of this session. D.

The Medical World is the title of a new journal which has just been started in Boston, by Dr. J. V. C. Smith, formerly editor of the Medical Journal of that city. It has in it all the faults which characterized the older publication during its founder's editorship. Of that manner of conducting a journal which speaks well of everybody, commends everything, dares to offend no one, we expressed our opinion several years since, and have found no occasion to changeit. The "World" will succeed, and the editor will make money out of it, that being a happy faculty that he possesses in all that he undertakes.

But is Dr. J. V. C. Smith alone responsible for thus putting out a feeler to draw to himself all sorts of *ismatics*? The members of the Massachusetts Medical Society receive them to their fellowship, sit contentedly by their side, and treat them quite as well, as (we hope not very much better than) they do the honest and intelligent practitioner of medicine who turns away from the golden seductions of quackery. There must be something wrong in the profession of the old Bay State, for where there is a *will* there is always a *way* for a society to rid itself of such associates.

THE AMERICAN MEDICAL MONTHLY.

DECEMBER, 1856.

ESSAYS, MONOGRAPHS, AND CASES.

Report on the Use and Effect of Applications of Nitrate of Silver to the Throat, either in Local or General Disease. By HORACE GREEN, M.D., Chairman of the Committee. Extracted from the transactions of the American Medical Association.

Many years ago the celebrated Abernethy published to the world his treatise "On the Constitutional Origin of Local Diseases." His views have been pronounced enlightened and philosophical; and perhaps justly so. Certainly they were eminently suggestive, for they contributed, more than those of any other writer of that period, to awaken among both surgeons and physicians a spirit of enlightened inquiry with regard to primary diseased action.

But the great work needed now more than any other, by both branches of the profession, and which might be termed, perhaps, the converse of that of Mr. Abernethy, is one which would embrace a full, enlightened, and philosophical history of the *Local Origin of Constitutional Diseases.* Until this neglected portion of the history of Medicine shall have been written by some second Abernethy, thoroughly enlightened and imbued with the vast importance of his subject, the value of topical medication, its effects and utility, cannot be fully appreciated by the profession.

A brief history, only, of the therapeutic effects of a single agent locally employed in the treatment of disease, is doubtless the one expected by those from whom the appointment to report on this subject emanated; and yet the diseases in which topical medication has been already successfuly employed, embrace a wide range, and include many of the most important affections which the physician is called upon to treat. Besides all that has been written in this country on the topical employment of nitrate of silver, several works of some magnitude, besides many monographs, have been published in Europe within a few years, which are devoted wholly or in part, to the history of the effects of this therapeutic agent in the treatment of disease. In reporting, therefore, on this subject, I shall refer primarily and mainly to the views and conclusions of others—to those which appear to be based on carefully recorded observations—believing that the value of my own views and opinions will be enhanced when these are sustained by the experience and the corroborative testimony of distinguished observers of my own and of other countries.

Among the works which have been published on topical treatment, or in which the use of nitrate of silver as a local therapeutic agent is discussed, are the following: "*Dysphonia Clericorum, or Clergyman's Sore Throat, its Pathology and Treatment.* By James Mackness, M.D., member of the College of Physicians, London, &c., published in London, 1848." "*A Treatise on Diseases of the Larynx and Trachea, and their Treatment by the Local Application of Caustics.* By John Hastings, M.D., Licentiate of the Royal College of Physicians, London, &c., 1850."

A work on the Medication of the Larynx and Trachea, by S. Scott Allison, M.D., Member of the Royal College of Physicians, London, was published in 1853. And in the same year, Prof. Bennett of Edinburgh, published his work on Tuberculosis and on the Local Medication of Pharyngeal and Laryngeal Diseases.

But the most comprehensive and valuable publication on this subject, is the recent work of Dr. Watson, of Glasgow, Professor of the Institutes of Medicine in the Andersonian Uni-

versity, in which he declares his object has been to explain the rationale, and to recommend the practice of topical medication to the larynx, not only in those diseases which affect that organ simply and alone, but also in others during the progress of which it is secondarily involved in morbid action.*

There are two other foreign works, having reference to diseases of the air-passages and their topical treatment, of which I might speak, both of which were published in London in 1851. The one by a member of the Royal College of Surgeons of England, the other by a Fellow of the Medical Society of London, &c. But as these volumes contain nothing on this subject, not recorded in my own work on *Diseases of the Air-passages*, published in 1846, I shall only allude to them in order to say, that however just the English may have been in accusing American writers of "pirating" and of borrowing largely from English authors, they are themselves not altogether immaculate in this respect. One of these authors has taken copiously from the above work, without the ordinary acknowledgment; whilst the other has made up a good-looking volume of nearly two hundred pages, on *Diseases of the Mucous Membrane of the Throat and their Treatment by Topical Medication*, a large proportion of which in its chapters on pathology, etiology, and treatment, is abstracted from my work; page after page of matter having been copied literally, without any intimation whatever as to its true paternity, and that too without those revisions and improvements which might have been made advantageously, with almost every sentence purloined.

Although many brief articles on the treatment of several of the diseases of the air-passages by means of cauterization, have from time to time appeared in our Medical Journals, yet no work, nor even a monograph, especially devoted to this subject, has ever been published by any one among my own countrymen.

Among the diseases, in the treatment of which the preced-

* The Topical Medication of the Larynx in Certain Diseases of the Respira tory and Vocal Organs. By Eben Watson, A.M., M.D., &c., &c.

ing authors have recommended the employment of applications of nitrate of silver, are the following: Follicular disease of the pharyngo-laryngeal mucous membrane, acute and chronic laryngitis, croup, œdema of the glottis, aphonia, hooping-cough, spasmodic asthma, chronic bronchitis, laryngismus, and tuberculosis, especially when the latter affection is consequent on or complicated with laryngeal disease.

Now, the question very appropriately presents itself, on what principle in rational or scientific medicine, is that practice founded by which several diseases, diverse in their indications, can be successfully treated by the employment of a single topical remedy?

Dr. Watson, in his recent valuable work, to which I have alluded, in considering the *modus operandi* of this local stimulant, in the treatment of inflammations of the mucous membrane, offers an interesting rationale of that treatment, showing its applicability to many diseases, which at first sight are essentially different; "as different, for example, as hooping-cough and laryngitis, or as either of these and aphonia."

All practitioners who have used this local remedy to any extent, have found it highly important to vary the strength of the solution in different cases, and also according to the condition of the diseased membrane. When a solution of nitrate of silver of moderate strength is applied to the mucous membrane, it acts chemically on the mucus with which it comes in contact, and throws down a copious white deposit that coats the membrane beneath.

"In erosion and ulceration of the mucous membrane," says Dr. Watson, "the deposit of the white substance before alluded to, from the caustic solution, is thickened by coagulation of the albumen of the *liquor sanguinis*, which transudes from the exposed vessels, and thus protection is afforded to the delicate and inflamed parts beneath."* The therapeutic effect which follows the stimulation produced in the vessels of the parts, by the application of the argentine solution, he explains by a reference to the action of this remedy, on the different degrees and stages of that inflammatory process, which is artifi-

* Op. citat., p. 32

cially produced in the web of a frog's foot, stretched out under a microscope.

When, for example, he says, "a red-hot needle is passed through the web, the following are the phenomena observed: A spot in the centre of the inflamed part is sphacelated, destroyed by the passage of the needle through it; a circle around the spot is usually found in a state of complete congestion, the vessels being dilated and the corpuscles almost perfectly stationary within them, while in the part beyond this circle, the vessels are not so much dilated, and the stasis of their contents is not so complete. The stream is seen passing slowly away into the collateral circulation of the unaffected parts of the web."

"Now these two circles represent two degrees of inflammation, which it is important to distinguish wherever they occur, and perhaps especially when the seat of morbid action is the mucous membrane of the larynx or trachea. That part of the web of the frog's foot in which the stasis was complete, represents the most intense, or sthenic degree; the other, in which the stasis was not so complete, represents what is usually called the subacute, and perhaps chronic varieties. And the effects of the solution of caustic on each of these parts, is markedly and importantly different. In the part which is most intensely inflamed, the solution in the direct ratio of its strength increases the stasis of the blood within the vessels. The latter seem to be unable to dilate further, and are, therefore, little changed, but the nitrate of silver acts through the coats upon the blood which they contain by causing its partial coagulation, and likewise by withdrawing water from the serum for the crystals of the nitrate which begin partially to form if the solution is strong. In that part of the web, on the other hand, which had been less intensely inflamed, the stimulant solution causes a renewed and increased dilatation of the blood vessels, and the retarded current moves on in them more freely than before; a cure being thus speedily effected if the exciting cause of the inflammation has ceased to act."*

From these experiments Dr. Watson believes we are war-

* Op. citat., pp. 32–3.

ranted in concluding that the purely stimulant action of this remedy is beneficial, in all varieties of the inflammatory process, except the most intense ; and that a strong solution not only stimulates the vessels, but tends, as in the different varieties of œdema, to remove the watery part of their contents, on the laws of *exosmose* and *endosmose*.

Prof. Bennett of Edinburgh, on the other hand, declares in his recent work on *Pulmonary Tuberculosis*, that "the action of the nitrate of silver solution is not that of a stimulant, but rather that of a calmative or sedative. It acts chemically on the mucus, pus, or other albuminous fluids it comes in contact with, throws down a copious white precipitate, in the form of a molecular membrane, which defends, for a time, the tender mucous surface, or irritable ulcer, and leaves the passage free for acts of respiration. Hence the feeling of relief almost always occasioned ; that diminution of irritation in the parts, which is so favorable to cure, and why it is that strong solutions of the salt are much more efficacious than weak ones."*

Dr. Scott Alison, in his work on the *Medication of the Larynx and Trachea*, expresses the opinion that the nitrate of silver, when applied to an acutely inflamed organ, is an irritant, and may aggravate the morbid condition. "To a part affected with chronic inflammation," he says, "it is a tonic and a stimulant, and therefore is likely to be beneficial. To a tissue, the subject of irritation, it is a sedative. Applied to a membrane, which for some time has been the seat of excessive and unhealthy secretion, it abates and corrects it."*

These are the opinions of a few of the distinguished members of the profession—men who have had the largest experience in the use of the remedy—of the therapeutic action of the nitrate of silver solution, in the treatment of diseases of the lining membrane of the air-tubes.

I shall now proceed, in as brief a manner as possible, to

* The Pathology and Treatment of Pulmonary Tuberculosis ; and on the Local Medication of Pharyngeal and Laryngeal Diseases, frequently mistaken for, or associated with, Phthisis. By John Hughes Bennett, M.D., F.R.S.E., &c., &c., p. 140.

* The Medication of the Larynx and Trachea. By S. Scott Alison, M.D., &c., pp. 10, 11.

specify some of the most important of the local and general diseases which have been enumerated, in the treatment of which, the Use and Effect of Nitrate of Silver have been observed and recorded.

1st. *The Effect of Nitrate of Silver in the Treatment of Follicular Pharyngo-laryngeal Disease.*

In advocating the employment of topical medication, in the treatment of diseases of the air-passages, in the work to which I have alluded, I state that, "in the simple and uncomplicated form of follicular pharyngo-laryngeal disease, however severe the local affection may have been, this remedy alone, namely, the crystals of nitrate of silver topically applied, has proved in my hands a specific in a large number of cases." *

This opinion of the efficacy of the remedy in this disease, has been fully sustained by subsequent experience, in the practice of many distinguished physicians in this and in other countries. It is well known that Prof. Bennett, of the University of Edinburgh, has adopted extensively topical medication in the treatment of laryngeal and kindred diseases, in the Royal Infirmary, and in his private practice.

In his treatise on *Pulmonary Tuberculosis and Laryngeal Affections*, much valuable information on this subject, and many interesting cases, successfully treated by the applications of nitrate of silver, are given. I shall take the liberty of noting the following

Case.—"I was requested by an assurance office, in July, 1850, to examine the chest of Mr. M——, a merchant, aged about 30, who said he labored under no kind of complaint, with the exception of occasional sore throat, and expectoration of mucus tinged with blood. He was tolerably stout, took long walks without uneasiness, and suffered from no difficulty of respiration or from cough. Repeated examination of his chest failed to elicit any physical sign indicative of pulmonary disease. I therefore certified that his lungs were healthy. In October, 1851, this gentleman called upon me again for advice, under the following circumstances. The soreness of the throat had latterly increased, and considerable cough was induced, after which

* A Treatise on Diseases of the Air-Passages, &c., p. 213.

he spat up mouthfuls of purulent matter, frequently tinged of a red color. He brought me some of this sputum to examine, which consisted of mixed blood and pus, of a dirty brick-red color. Examination of his chest again convinced me that the lungs were unaffected ; but in the interval I had paid attention to the writings and practice of Dr. Horace Green, of New York ; and I now examined his throat, when the cause of his symptoms was at once apparent. The fauces and upper part of the pharynx were studded over with nodular swellings, varying in size from a pin-head to that of a pea. Many of them were bright red, and fungoid in character, probably the origin of the extravasated blood, whilst considerable patches of purulent matter adhered to several parts of the mucous membrane. I applied a sponge, saturated with a strong solution of the nitrate of silver, to the affected parts. In three days he returned, having been much relieved, when the application was repeated. I have not seen him since.

"These two cases (a second case being recorded by Dr. B., not quoted) convinced me that certain symptoms which have hitherto been considered as indicative of phthisis, might have their origin entirely in the fauces, pharynx, and upper part of the larynx. The cough, so occasioned, with the purulent expectoration, often tinged with blood, frequently so resembles that occasioned by phthisis, as not only to induce alarm in the minds of the patients, but frequently to mislead the medical practitioner. I have now met with many such cases, which have been mistaken for phthisis, and which have been treated for that disease without any effect, until local remedies were applied, when they, for the most part, disappeared or became much better." *

Dr. Bennett enumerates other cases of follicular disease, where all the symptoms of phthisis pulmonalis were present, including emaciation, profuse sweating, cough, expectoration of pus mingled with blood, bad appetite, hectic ; and, in consequence, cod-liver oil, cough mixtures, acid drops, wine and good diet were administered, and all without effect ; "but which in many instances were cured by the topical applications."

* Op. citat., p. 128.

2d. *The Effect of Nitrate of Silver in the Treatment of Acute and Chronic Laryngitis.*

Dr. Hastings, in his excellent *Treatise on Diseases of the Larynx and Trachea*, expresses great confidence in the use of the Nitrate of Silver, as a local remedy in the treatment of these affections; and he also details many cases of much interest, in which topical medication proved effectual in arresting the disease, after other measures had failed. Under the head of "Follicular Laryngitis," Dr. Hastings alludes to a pathological condition of the larynx and trachea, which, as an independent affection, is very generally overlooked by the profession, or, is considered the sequel—not, as it often is, the antecedent of tuberculosis. "I am satisfied," says Dr. Hastings, "that cases presenting the morbid appearances in the pharynx and arch of the fauces just described, form but a small proportion of those denominated follicular laryngitis."* * * * * *

"I have repeatedly met with cases in which the disease was confined to those parts, and the back of the velum, where nothing more was required than to carry the solution of the nitrate of silver behind the uvula into the posterior nares, and over the pharynx and fauces, in order to remove a very troublesome cough; whilst in others, and by far the greater number, the disease exists in the larynx and trachea, the fauces and pharynx at the same time presenting a healthy appearance.

"Such cases are, generally, most puzzling to the practitioner. The patient is troubled with cough, the expectoration is mucopurulent, occasionally streaked with blood, to a considerable amount; pains are felt in the chest below the clavicles, he wastes a little, or he may not lose flesh. His chest is examined again and again, but no disease can be discovered; his mouth and throat are inspected without anything being found there to account for the symptoms; at length the disease is regarded as an obscure case of phthisis; he gets treated with sedatives, expectorants, and cod-liver oil, until the ensuing Winter, when all his former symptoms return in an aggravated degree, whilst as the warm season comes on, they improve."

* A Treatise on Diseases of the Larynx and Trachea. By John Hastings, M. D., &c. London, pp. 115.

"Much pain and suffering might be spared in these cases, were a stethoscopic examination of the windpipe resorted to, which in most cases would point out the nature, situation, and extent of the disease; and the practitioner would have that satisfaction in treating the case, which an imperfect knowledge or an entire ignorance of it can never give." *

Such cases are reported by Dr. Hastings as having been successfully treated by the repeated application of the sponge, saturated with a solution of the nitrate of silver, and which was "carried down the windpipe," he says, "as low as the bifurcation of the bronchi."†

In speaking of the practicability of this operation, and of the benefit to be derived from topical medication in disease of the larynx, Prof. Bennett declares, that if the probang be properly prepared, and the operation well performed, the sponge saturated with the solution of nitrate of silver may be rapidly thrust through the rima into the larynx and frequently into the trachea. "I am persuaded," he continues, "that on many occasions, I have passed it pretty deep into the trachea, not only from the length of the probang which has disappeared, but also from the sensations of the patient. ‡ * * * In this first part of the operation, the rima glottidis is, as it were, taken by surprise, and the sponge enters, if the right direction be given to it, without difficulty; the rima glottidis immediately contracts by reflex action, so that on withdrawing the instrument you feel the contraction."

"This also squeezes out the solution, which is diffused over the laryngeal and tracheal mucous membrane. Now if the sponge be a fine one, it will be found capable of holding about half a drachm of fluid, the effect of which upon the secretions and mucous surfaces, almost always produces temporary relief to the symptoms, and strengthens the tone of the voice; results at once apparent after the momentary spasm has abated."

In the treatment of both varieties of chronic laryngitis, the idiopathic and the tubercular, topical applications of the nitrate of silver solution have proved, in the hands of many practitioners, a most efficient and valuable remedy.

* Op. citat., pp. 116–7. † Op. citat., p. 119. ‡ Ib., pp. 139, 140.

Dr. Cotton, one of the physicians of Brompton Hospital, in the work to which I have alluded, in speaking of topical medication in chronic laryngitis and laryngeal phthisis, candidly admits his previous unbelief in, and changed views with regard to the practicability or propriety of topical medication to the mucous membrane of the respiratory passages. The admission is honorable to himself, and worthy of imitation. "I should here remark," he observes, "that my own views upon this subject differ from those I formerly held and have even expressed; and that I owe this change to the kindness of Dr. Horace Green of New York, the justly celebrated advocate of this treatment, who, during a recent visit to our metropolis, convinced myself and others, not only of the possibility, but of the safety and usefulness of the practice.

"I had long been in the habit of using a solution of nitrate of silver to the pharynx and upper surface of the epiglottis, by means of a soft brush, in all the early cases, both of pharyngeal and laryngeal complication; and had frequently witnessed its good effects, not only upon the part to which it was immediately applied, but upon the laryngeal structures also, attributing it in the latter case to an action excited in the upper respiratory passages from continuity. But I had never ventured to apply anything directly to the larynx itself; not from misgivings as to its effects, but from apprehensions of its danger. For some months past, however, I have done so, extensively in cases of chronic laryngitis, whether idiopathic or tubercular, and very frequently with marked success.

"At the commencement of the laryngeal symptoms, a solution of the crystals of nitrate of silver, varying in strength from ten grains to half a drachm to the ounce of distilled water, passed by means of the instrument recommended by Dr. Green, into the opening of the larynx, is often productive of great relief. I have known the voice regained, the irritable cough removed, and the tenderness and difficulty of swallowing dissipated entirely by it; indeed, I think we might almost speak of its *curative* effects, so far, at least, as the larynx is concerned, in some very early cases." *

* Op. citat., pp. 236–7.

"In the treatment of acute laryngitis," says Dr. Hastings, "the topical application of a solution of the nitrate of silver may sometimes be employed with great advantage; indeed, unaided, it will not unfrequently remove the disease, but then the patient must be seen sufficiently early.

"If the inflammation has not penetrated into the trachea, but is confined to the larynx, we may safely and successfully venture to employ this topical application; for although a small spot of intense inflammation may be safely and successfully treated in this way, a large surface is irritated by the same means.

"This treatment would not interfere or prevent the use of any additional remedies, such as calomel, opium, aperients," &c. "But it is in the chronic form of laryngitis," Dr. Hastings continues, "that this treatment is remarkably useful. Many such cases improve rapidly under local treatment applied to the larynx and trachea, which, if neglected for months, or it may be for years, not unfrequently lead to permanent changes." *

In this connection Dr. Hastings relates some most interesting cases of chronic laryngitis, attended with hoarseness, cough, emaciation, "expectoration streaked with blood," difficulty of breathing, night-sweats, and most of the ordinary symptoms of phthisis—all of which were promptly and permanently relieved by a solution of nitrate of silver of the ordinary strength applied to the larynx and trachea.† With regard to the treatment of *tubercular laryngitis*, Dr. Hastings remarks, "I know of no means so capable of arresting and removing it, as sponging the windpipe with a solution of the nitrate of silver." ‡

In the treatment of the non-exudative variety of chronic laryngitis, Dr. Watson has employed and recommends the application of the nitrate of silver to the inflamed mucous membrane; but he considers that a great amount of discrimination is necessary in the adaptation of the strength of the solution to the severity of the inflammation which may be present; as well as in the preparation for commencing the topical measures. In the severe forms of the affection, he believes that depletion of some kind will at first be necessary

* Op. citat., pp. 79, 80, 81. † Ib., p. 85 et seq. ‡ Ib., p. 130.

to check the violence of the inflammation before the applications of the caustic solution are made to the laryngeal membrane ;* and with regard to the strength of the remedy employed, he maintains that the more intense the degree of inflammation of the laryngeal lining, the weaker ought to be the solution of the nitrate of silver applied to it.†

After the intensity of the primary inflammation has been subdued by appropriate treatment, a stronger solution may be used with advantage. "Its first effect," he continues, "when thus judiciously applied will be to coagulate the albuminous film upon the surface of the membrane which had been stripped of its epithelium, and to secrete new mucus, and thus the artificial film of coagulated albumen is by and by replaced by a more natural covering, and the surface is lubricated by its appropriate moisture.

"If, then, a renewal of the morbid process could be prevented, a cure would already have been effected, but this is seldom or never the case. The good effects of the topical application wear off in a few hours, and the former abnormal phenomena may even in that time have reappeared in nearly equal severity. The treatment must therefore be continued ; the touching of the larynx must be repeated frequently for some days ; and indeed, until all the symptoms of laryngitis have completely disappeared."‡

Many practitioners both in this country and in Europe, differ entirely from Dr. Watson, with regard to the strength of the solution to be employed in the treatment of different degrees of inflammation of the mucous membrane. The weaker solutions, they believe, those for example of the strength of five, ten, or fifteen grains to the ounce of water, act as a stimulant, or as an irritant when applied to a highly inflamed membrane ; while a strong solution, by the chemical changes it effects, will prove a sedative, and thus tend directly to subdue the violence of the inflammatory action.

On this point, as we have seen, Prof. Bennett expresses the decided opinion, after much observation and experience in the topical use of the nitrate of silver solution, in the treatment of

* Op. citat., p. 40. † Ib., p. 41. ‡ Op. citat., p. 41.

inflammations of the lining membrane of the larynx and trachea, that strong solutions of the salt, by acting as a calmative or sedative, diminish the irritability of the inflamed parts, and are therefore much more efficacious than weak ones.*

Dr. Watson, in his treatise, has devoted many pages to the consideration of chronic laryngitis. "In the treatment of chronic disease of the laryngeal mucous membrane," he remarks, "I place my chief reliance on topical applications to the parts affected, but I do not undervalue or neglect more general measures." The strength of the solution, he adds, "should vary with the requirements of the case, and it should be applied every day, or every second day, according to the patient's feelings."†

Dr. Alison, in the work to which I have referred, on the *Medication of the Larynx and Trachea*, details his experience in the employment of other agents beside nitrate of silver, for the treatment of local diseases; such as Atrophine, Daturine, Iodine, &c., but he gives the preference to the first named remedy, as the one most efficient. "I had so frequently found," he remarks, "in the treatment of local disease, and local complications, that many remedies were far more efficacious, when applied immediately to the part affected or to its vicinity, than at a distance, that I was glad to learn that a sponge loaded with the solution of the nitrate of silver, and affixed to a probang, could, not only without injury, but with manifest advantage, be passed through the glottis and the larynx down into the trachea."‡

In acute inflammation of the glottis, Dr. Alison has hesitated to apply the solution, lest "the presence of the stimulant on parts suffering from such attacks," might aggravate the disease; but in chronic inflammations of the larynx, "and of the upper portion of the trachea, the solution of the nitrate of silver, he observes, has in my hands as in others, been very useful in bringing the disease to a conclusion; and where that has not been accomplished by reason of its dependence upon incurable disease of the lungs, it has almost invariably afforded very considerable relief, by rendering the cough less violent and fre-

* Ib., p. 140. † Ib., p. 85 et seq. ‡ Op. citat., pp. 23.

quent, and removing much of the tickling and uneasy sensations, at the upper portion of the larynx." * * * * "In some cases of disease of the larynx and trachea," he continues, "in which the symptoms inclined to the suspicion that ulceration existed, the same local application of a solution of the nitrate of silver has been very useful."*

Abundant testimony from many other sources might be gathered, if necessary, to prove the great advantage to be obtained from the topical use of this remedy, in the treatment of laryngeal and tracheal disease.

3d. *The Effect of the Application of Nitrate of Silver in the Treatment of Membranous Croup.*

As a difference of opinion obtains, to some extent, among the profession, with regard to the propriety of employing topical applications of the nitrate of silver in *exudative laryngitis*, or croup, I shall examine with some care the opinions and observations of those who have had extensive opportunities to test its efficacy in the treatment of this often fatal malady.

According to the testimony furnished by Prof. Trousseau, of Paris, M. Bretonneau, the preceptor of Trousseau, was the first to employ topical medication in the treatment of membranous croup. Prof. Trousseau, in a letter which I received from him, and which was published in the January number of the *American Medical Monthly*, thus writes: "As early as 1818, M. Bretonneau, in the treatment of croup, carried over the arytenoepiglottic ligaments, several times a day, a sponge fastened to the extremity of a piece of whalebone and charged either with pure chlorohydric acid, or with a saturated solution of nitrate of silver. He expressed the fluid from the sponge at the entrance of the larynx, and the patient in the convulsive movements of respiration caused a certain quantity of the caustic solution to enter therein."†

In 1830, M. Trousseau employed for the first time caustic applications in the treatment of diseases of the larynx. "I made use," says M. Trousseau, "precisely of the same process which I have pointed out above, in the treatment of croup, and I endeavored to express the caustic solution into the cavity of

* Ib., pp. 7 and 8.

† American Medical Monthly, Jan. 1855, p. 9.

the larynx." In this connection Prof. Trousseau asserts, "that never, either before or since the publication of your labors, have I attempted to introduce into the larynx or trachea, a sponge saturated with a caustic solution," * * * "and consequently," he continues, "the direct introduction of the sponge saturated with a caustic solution, into the larynx and into the bronchial tubes, does not belong to me in any respect whatever." *

This local agent has also been employed after the manner of Bretonneau, in the treatment of pseudo-membranous croup, by MM. Dupuytren, Guersant, Guiet, Bouchut, Berton, and other French practitioners, but no one of the number made any attempt to pass the sponge probang into the larynx.

M. Bouchut, whose work on *Diseases of Children* was published in 1845, advises the employment of cauterizations, in the treatment of the disease, but he observes and recommends great caution in making the applications to the pharynx, and over the glottis, lest too large a quantity of the fluid *should drop into the larynx, and produce suffocation and death*, or at least render it necessary to practice immediate tracheotomy. The following are M. Bouchut's remarks on this subject: "Si la cauterization de l'arrére—bouche et de la partie supérieure du larynx est avantageuse, elle a aussi ses inconvénients qu'il faut connaître pour tacher de les éviter. La suffocation immediate peut en être la consequence, si l'on a laissé trop long temps l'éponge sur la glotte, et si une trop grande quantité de liquide a pénétré dans la larynx. Cet accident est fort grave, car il peut déterminer la mort, ou au moins la nécessité de partiquer aussitôt la trachéotomie."†

A late number of the *Archives Générales de Médecine* contains an interesting Memoir, by M. Vauthier, on the history of Croup, as it occurred in an epidemic form, in *L'Hôpital des Enfants Malades de Paris*. In this paper are the details of several well marked cases of membranous croup, which were treated successfully by "emetics and cauterizations;" and although in these

* See American Med. Monthly, pp. 9–10.

† Manuel Pratique des Maladies des Nouveaux-Nés, et des Enfants à la Mamelle, p. 272.

instances, the argentine solution was not conveyed into the larynx, but was applied only to the fauces and pharynx, yet the patients recovered perfectly under the treatment.* Although the cases thus treated are characterized as having been very severe—"trés intense"—yet, as the treatment was early adopted, it is probable that the exudative process had not extended into the larynx; for, in the same paper is a history given, of five other cases of membranous croup, in which the disease, having reached the larynx, was not arrested by cauterizations. This method was employed, as in the other cases, but no attempt was made to pass the instrument below the epiglottis. Tracheotomy, however, was resorted to in all these five cases, but every patient died. Efficient cauterization of the larynx, we maintain, would have saved three, if not more of these last cases.

Among the English practitioners, of whose works, on topical medication, we have spoken, a few only appear to have employed this remedy in the treatment of true exudative croup. Dr. Watson's exudative experience, in the treatment of the few cases he has reported in his work, has led him to the conclusion, "that the topical treatment is unsuitable during the acute stage of exudative croup."

Having been unsuccessful in the management of a single case of membranous croup,† in which he employed the treatment through the acute or inflammatory stage of the disease, Dr. Watson adopts and promulgates the above opinion. In the commencement of the disease, or in that stage of the affection denominated by him "the pre-exudative stage of croup," Dr. Watson highly recommends the application of the solution of nitrate of silver to the throat and larynx. Omitting the applications during the acute stage of the disease, he renews the topical measures, as soon as the inflammatory process has been

* Archives Générales de Médecine, tome xix., art. 1st.

† The only other case mentioned by Dr. Watson, as one not benefitted by the topical treatment, is that of a gentleman past the middle period of life, "who on a Winter evening," was suddenly seized with difficult respiration, tightness in the throat, harsh, dry, whistling cough, and high fever, "whilst the physical signs were: Inspiration long in the trachea, and accompanied by a harsh sound of the air passing along the dry and narrowed tube." Symptoms, manifestly indicative of *acute laryngitis*, and not as Dr. Watson supposed, of "ACUTE TRACHEAL CROUP, accompanied by exudation."—*Op. citat., p.* 51.

subdued by appropriate reducing measures. But his view on this subject will be best understood from the following brief extract from his work: "There is a large class of cases, in which the croup commences by a longer or shorter stage of simple, though severe inflammation of the laryngeal membrane. This inflammation differs in nothing from the most intense degree of catarrh, formerly described; but it speedily ends either in exudation upon the surface of the membrane, or in serous effusions beneath it.

"The suddenness of the attack, the anxiety of the patient, the severity of the constitutional fever, and above all, the stethoscopic signs of a dry and tense glottis, never fairly released at any stage of respiration, are the chief diagnostic marks of the danger to be expected in the next stage of the disease. No one who has ever listened attentively to the peculiarly harsh sounds transmitted through the stethoscope placed over the thyroid cartilage of a patient in the critical state we are now considering, can either forget or mistake the prolonged and dry, but vibratory sound during inspiration, immediately followed by less noisy, though still grating murmur of obstructed expiration by which it is characterized. Then the stifling and painful cough, without expectoration, and the whispering, not hoarse voice, are equally characteristic.

"In children, or in adults predisposed to the disease, such a group of symptoms as that just referred to, may be considered as certainly indicative of the first stage of exudative croup. But no exudation has yet been poured out, and according to my experience, the disease may here be checked by the application of an appropriately strong solution of the nitrate of silver; and I will venture to assert, it is in the treatment of this pre-exudative stage of croup, if I may be allowed so to name it for sake of brevity, that Dr. Horace Green has also been successful."*

This abortive treatment of croup by topical applications, is further illustrated by Dr. Watson, in his relation of the subjoined case: "It is that of a family of young children," he says, "all of whom are remarkably subject to croup, and, notwithstanding the utmost care in their management, some of them

* Op. citat, pp. 49, 50.

have suffered once or twice from the disease during the Winter, for some years past. In the beginning of the present year, I attended two of them, and, within the last few days, a third, when attacked by this disagreeable visitant.

"Whenever a croupy cough is heard in this family, the throat and larynx are at once touched with the solution of caustic. A warm bath, a few drops of antimonial wine, and, if necessary, a dose of laxative medicine, are next had recourse to, and very little else is generally required. The throat is touched for the two or three succeeding days, by which time the child is usually quite well.

"Only once that I remember did this abortive treatment fail in my hands, and it was in the case of a member of the family here referred to. The weather was at the time very severe, and the subject of the disease, a strong little boy about six years of age. For some reason or other, it was longer than usual, too, before the topical application was made to the larynx, and it failed. Exudation was thrown out, and the boy passed through a critical illness, during the intensity of which I laid aside the topical treatment, and employed leeches, calomel, and antimony. But when, as happily occurred in this case, the exudation had separated in due time, I renewed the stimulant applications to the windpipe, with marked benefit, and the child made a speedy and perfect recovery."*

In one other respect Dr. Watson differs from most practitioners in this country, namely, in the strength of the solution which he employs in the treatment of croup. He has found in practice, he says, that a solution "of fifteen or twenty grains to the ounce of water, is abundantly successful in fulfilling the indications of the disease."†

Although a prejudice against the local treatment is still entertained by many practitioners, applications of the nitrate of silver in the treatment of membranous croup have been employed, with more or less success, by physicians in every part of this country. Contributions from the profession have been made from time to time to most of our medical journals, during the last ten years, in which cases successfully treated by this agent

* Op. citat., pp. 51, 52. † Ib., p. 51.

are detailed. I will refer only to the opinion and observations of one of these writers, a distinguished permanent member of of this Association; it is well known to the reading members of the profession, that several years ago, Dr. Ware, of Boston, published his contributions to the "History and Diagnosis of Croup"—a work evincing more scientific research, and containing more information with regard to the true pathology of membranous croup, than all that had previously been written in America. In these papers, Dr. Ware refers to thirty-nine cases of what he denominates membranous croup, which were noticed in his own, or in the practice of his friends. Of these cases the state of the fauces was observed in thirty-three instances, and "in thirty-two, a false membrane was present; most frequently, and sometimes only, on the tousils, sometimes on other parts also, as the palate, uvula, and pharynx. In one case no such membrane was present; but it was found to exist in the larynx after death. These thirty-three cases were treated by the ordinary therapeutic measures; and of the whole number *three* only recovered; in thirty the disease proved fatal." It is not at all surprising that, under these circumstances, Dr. Ware, eminent for his careful investigation and conscientious inquiry after truth, should have become "confirmed in the opinion," as he subsequently declares himself to have been, "that the methods of treating this disease, in common use, require a careful reconsideration;" nor, that he should have propounded the question: "If the mode of treating croup commonly adopted, does no good, are we sure that it does no hurt?"

Having concluded after the experience to which we have referred, to treat the disease "without the preserving use of the heroic remedies," Dr. Ware subsequently adopted a method in which the treatment consisted—

1. "In the absence of all reducing, depleting, and disturbing remedies.

2. "Keeping the patient under the full influence of opium combined with calomel.

3. "Constant external application of warmth and moisture (to the neck), and of mercurial liniment, slightly stimulating.

4. "Constant inhalation of watery vapor."

In March, 1850, Dr. Ware read before the Suffolk District Medical Society, "*Additional Remarks on the Treatment of Croup*," in which paper he refers to five cases of membranous croup, three of which were treated on the method indicated in the preceding propositions; and in the other two cases, in addition to these general measures, applications of a solution of nitrate of silver were made into the larynx. The first three cases which received general treatment only, proved fatal; yet they "exhibited," says Dr. Ware, "certain differences from the common course of this disease which indicated a favorable influence from difference of treatment."

"In all of them the membrane was thrown up in considerable quantities.

"In all of them the disease was attended by very much less distress than is usual in croup; and, in two, there was so decided a mitigation of symptoms following the separation of the membrane, as to lead to considerable hope of a favorable termination.

"In two, at least, the disease was prolonged to at least twice its average duration under the usual treatment.

"In the other two cases, to which reference was made, the same general course of treatment was followed, with the addition of the introduction of the sponge, wet with a solution of the nitrate of silver, into the larynx. In each of these cases the application was made as early in the disease as I became satisfied of its distinct character. It was repeated morning and evening. It decidedly gave relief to the breathing, soon after each application, and both cases ultimately recovered perfectly. For the suggestion and adoption of this valuable addition to our means of treating this formidable disease, we are indebted, as is well known, to the enterprise of Dr. Horace Green, of New York. The profession, I think, owe to him a large debt of gratitude, for the energy and perseverance manifested in the introduction of this remedy, and I am the more disposed to render this tribute, to him, because so many attempts have been made to detract from his merit in relation to it."

"I am well satisfied from what I have now seen of this method of treating croup, as compared with that which has been follow-

ed for so many years, that it has the advantages which were pointed out in one of the preceding papers. It is a disease which I would treat without depletion, except, perhaps, by a few leeches—without vomiting, without purging, without blisters, without antimonials, ipecac., and all those other nauseous remedies which have been usually resorted to. I would trust to opiates, perhaps calomel, emollients, and the local application of the nitrate of silver." "I ought to add that many of my friends in the profession have informed me of cases in their practice, treated on these principles, which have recovered in a favorable manner."*

Since the publication of Dr. Ware's papers, cauterization of the larynx, in the treatment of membranous croup, has been adopted by large numbers of medical men in New England, as well as in other places in the United States, from many of whom we have received communications on this subject, expressing their full confidence in this therapeutic agent, when timely and appropriately employed in the management of croup.

Should we give the history of a tithe of these cases, which have been thus reported to us, they would occupy a much larger space than can be appropriated to this subject.

In 1848 the chairman of this committee published a small treatise "*On the Pathology of Croup, and its Treatment by Topical Medications*," in which the declaration was made that "the practice of making topical applications of medicinal agents into the larynges of young children, for the treatment of membranous croup, is a plan entirely practicable, safe, and when judiciously employed, *in the highest degree efficacious*." This method of treating a disease hitherto so unmanageable was founded, among others, upon the following propositions (which were then advanced, with regard to the pathology of the disease), namely: "that the essential characteristics of true croup consist in an inflammation of the secreting surfaces of the fauces, larynx, and trachea, which is always productive of a membranaceous or an albuminous exudation."

"2. That the membranaceous concretion, which is found coating the inflamed mucous surface of the parts in croup, is an

* Boston Med. and Surgical Journal, vol. xlii. pp. 267–8.

exudation, not from the membrane itself, but is secreted by the muciparous glands, which so abundantly stud the larynx and trachea.

"3. That the exudative inflammation commences, invariably, in the superior portion of the respiratory passages, and extends from above downwards, never in the opposite direction." *

Since the publication of the work in which this mode of treatment is advocated, the author has had the opportunity of treating many cases of croup on the plan deduced from this view of its pathology, viz: by means of topical medication, not only in his own practice, but in the practice of, and in conjunction with, other members of the medical profession; and with an amount of success that has afforded a high degree of encouragement and satisfaction.

He has also received from medical men, in different parts of the United States, as well as from numbers in Europe, the history of many cases of membranous croup, wherein topical measures, in their hands, have proved effectual in arresting the disease.

4th. *The Effects of the Applications of the Nitrate of Silver in the Treatment of Œdema of the Glottis.*

In 1852, a work "*On the Surgical Treatment of Polypi of the Larynx, and Œdema of the Glottis,*" was published by the author, in which cases of the latter disease are reported as having been successfully treated, as early as 1849, by means of a solution of the nitrate of silver to the affected parts. The happy result which had followed its employment, encouraged the author to commend with much confidence, this method of treating one of the most formidable, and hitherto one of the most fatal of all the diseases of the larynx.

In a paper read before the Edinburgh Medico-Chirurgical Society, by Dr. John Scott, one of the oldest and most distinguished physicians of Edinburgh—a paper which was afterwards published in the *Monthly Journal of Medical Science* for 1850—many interesting cases of laryngeal diseases, successfully treated by topical treatment, are recorded. Among the

* Observations on the Pathology of Croup, with Remarks on its Treatment by Topical Medications, &c.

cases reported by Dr. Scott is one, the particulars of which were furnished him by his friend, Dr. Brown of Edinburgh; which appears to have been a case of œdema of the glottis, following, or being complicated with inflammation of the mucous membrane of the parts. The patient was recovering from an attack of erysipelatous sore throat, when Dr. Brown was sent for, the message being that the patient was dying. "Meeting fortunately with Dr. Scott," says Dr. B., "he accompanied me. The patient had all the appearance of imminent death; his face expressive of extreme terror and anguish; the extremities cold; the pulse hardly to be counted from its rapidity and weakness; the breathing all but impossible, apparently from some affection at the top of the windpipe; the voice was gone. On looking deeply into the throat, the pharynx and top of the larynx were seen of a deep red.

"The patient being too weak for bloodletting, and too ill for any slower measures of relief, Dr. Scott applied the solution of the nitrate of silver, which he happened to have with him. He got the sponge completely into the larynx. Mr. S. almost instantly expressed, by signs, his relief. In the evening he could speak a little, and was able to lie down in bed, and was in all respects better. He was blistered, and had calomel and opium.

"Next morning he was much better. The sponge was again applied without any difficulty. He recovered rapidly, and has been for more than two years in perfect health, attributing without any hesitation, the saving of his life to the sponge and the caustic."

The valuable work of Dr. Watson contains his views with regard to the effects of nitrate of silver in the œdematous glottis, together with a record of several cases successfully treated by this remedy; and he expresses the gratification that he has been able to "come to precisely the same conclusions with myself, as to the strength and mode of application of the solution," in the management of this disease. He therefore quotes from my work the following directions, which are to be pursued in the employment of this remedy.

"The first application with the sponge-probang should be made to the pharynx and top of the epiglottis; and after a

delay of ten or fifteen minutes, the measure may be repeated, and the sponge, wet with the solution, be freely applied to the base of the epiglottis and over the œdematous lips of the glottis. The application should be repeated every hour or two hours, according to the urgency of the disease, and the effect produced by the operation; and an attempt should be made each time to carry the sponge between the lips of the glottis. As the œdema at the opening of the larynx subsides, this may be done, and the application of the caustic solution be made to the interior of the glottis.

"I am inclined to think that the benefit arising from such a practice is brought about by the powerful stimulation of the relaxed vessels of the œdematous organ. Such a condition of the bloodvessels permits a continual increase of the morbid state, whereas, by their contracting under the stimulation, the current of blood within them is quickened, and the effused fluid is partly absorbed into the circulating fluid, partly removed by the new layer of epithelium, which is rapidly found to replace what had perished during the inactivity of the basement membrane, coincident with, and produced by the œdema of its subjacent tissue. Every touch of the probang renews the impulse already given to these restorative processes, and thus the benefit increases in a geometrical ratio, till the cure is finally accomplished."*

"The action of a solution of caustic," says Dr. W., on another page, "applied to a sub-acutely inflamed mucous membrane, might, *a priori*, be expected to produce a beneficial effect on the œdematous glottis; and this expectation has been remarkably fulfilled in my experience."†

5th. *Of the Effects of Nitrate of Silver in the Treatment of Hooping-Cough.*

To Professor Watson, of Glasgow, belongs the honor of having been the first to employ topical medication for the treatment of Hooping-Cough. His original paper on hooping-cough, in which he describes, "a new method of treating that disease," was read before the Medical Society of Glasgow, in 1849, and was first published in the *Edinburgh Monthly Journal*

* Watson, pp. 57, 58.

† Ib., pp. 54, 55.

in December of the same year. Five years later—after having treated many other cases by this new method, Dr. Watson publishes, in his work on *Topical Medication*, the results of his experience; and these practical results have been considered in the highest degree encouraging. He has also given us, in this chapter on the laryngeal treatment of hooping-cough, the experience of *M. Joubert*, of France, who has employed, with great success, this topical method of treatment, in a large number of cases of hooping-cough. His memoir on the subject was published in a French journal, in 1851.*

In the opinion of Dr. Watson the indications for the topical treatment of hooping-cough are founded upon what is considered by him the true pathology of the disease. The morbific agent, he thinks, whatever that poison may be, "in the cases of hooping-cough commences its operations by producing inflammation of the pharyngo-laryngeal mucous membrane; and secondarily, irritation of the pneumogastric nerves." † And hence the declaration of his belief that topical treatment alone "is founded on the true pathology of the disease, and is fitted to counteract, the most speedily and effectually of all known means, the results of the mysterious poison which originates the malady." ‡

In the early stage of the disease, when the inflammatory action is high, Dr. Watson recommends, for children, the employment of a solution of the nitrate of silver, of the strength of about fifteen grains to the ounce of water.

"Afterwards, when the nervous symptoms predominate, the solution may with advantage be strengthened; but it is impossible to lay down rules that will universally apply to different cases, or even to the same case on different days. This must be left to the judgment of the practitioner." § It is recommended that the applications should be made at least every second day, first to the pharyngo-laryngeal membrane, then to the parts above the glottis, and to the opening of the glottis. "But after the general inflammatory state has been got rid of," says Dr. Watson, "and when the disease has come to its height,

* Recueil des Travaux de la Société Médicale de l'Indre et Loire. 1851.
† Op. citat., p. 107. ‡ Ib., p. 106. § Ib., p. 116.

the larynx must be entered, in order that the caustic may be brought into contact with the nerves, upon the excitement of which the continuance of the hoop depends."*

The following favorable numerical account is given by Dr. Watson, of the results of the treatment in question, in his own cases, and in those of M. Joubert; the number of patients treated amounts to 134 in all:—

	Cured within a fortnight	Cured within 3 or 4 weeks.	Resisted treatment.	Total.
Dr. Watson's cases . . .	46	20	0	66
M. Joubert's " . . .	40	20	8	68
	86	40	8	134

During the Spring of 1854, hooping-cough prevailed in Glasgow as an epidemic, and Dr. Watson had an opportunity of treating a large number of cases. In the most of these the disease was very severe; and yet the result as given is as follows: cured in a fortnight *ten* cases; in three weeks *sixteen;* in four weeks *five; one* resisted the treatment; and *one* died.

The whole number treated being therefore 167, the proportions stand thus:—

Cured in two weeks	96 cases, or	54.4 per cent.
" three to four weeks . .	61 " or	36.5 "
Resisted treatment	9 "	
Died	1 case, or nearly	0.06 "

In contrast with the preceding results of the topical treatment of hooping-cough, Dr. Watson subjoins a table of the ordinary duration of the disease when treated in the usual manner, as stated by some of the best and most recent authorities, such as Williams, Copland, Walsh, West, and a few others; and the average of all the statements of these authors, is from one and a half to three and a half months.

The deaths from hooping-cough in London (and the percentage appears to be about the same in other parts of Great Britain), according to the reports of the Registrar-General, are in the proportion of 8.9 per cent. among females, and 6.2 per cent. among males to the deaths from all causes under ten years of age.

" Surely, then," adds Prof. Watson, "a treatment which prom-

* Op. citat., p. 118.

ised to diminish, or perhaps to annihilate this great mortality, ought to have been received with consideration by the profession," for, as the author subsequently remarks, "the numerical results just given prove in a manner beyond all cavil, the simple treatment which I have suggested is capable of cutting short the hooping-cough with as much certainty as quinine arrests an intermittent fever; and moreover, that it renders the disease while it lasts both milder in type, and safer to the patient than the most favorable circumstances of season or epidemic could possibly do." *

So far as your Committee has been able to learn, it is ascertained that this topical method for the treatment of hooping-cough has been employed only to a very limited extent in this country. During the last four years every case of hooping-cough which has occurred in the practice of the chairman of your Committee (and they amount to a considerable number of cases), has been treated by applications of a solution of nitrate of silver to the pharyngo-laryngeal mucous membrane. In all these instances, the peculiar symptoms of the disease, the spasmodic cough and hoop, have been arrested in from one to two weeks; and in several cases which occurred last Winter, the hoop ceased entirely after the third application of the remedy: the cough, also, disappeared in a short time after. So far, then, as the experience of your Committee goes, it substantiates fully the favorable results obtained by Watson and Joubert.

Although to Dr. Watson has been awarded the honor of being the first who employed topical medication for the treatment of hooping-cough, still it would seem to be not inappropriate here to explain, as Dr. Watson has himself done, with great candor and fairness, "the way by which he came to try" this method of topical applications for the treatment of the disease in question. "Soon after the publication of Dr. Horace Green's work on *Diseases of the Air-passages*," he observes, "I had several opportunities of putting to the test of experience his method of treating chronic laryngeal affections, viz: by touching the lining of the larynx with a solution of the nitrate of silver. My trials fully confirmed his statement of the efficacy

* Op. citat., p. 124.

of the treatment referred to, and I soon found that I could with advantage carry out a similar practice in many other diseases, such as in ordinary acute bronchitis, in the intervals of asthma, and even with relief of the tickling cough in early phthisis. Having thus established, to my satisfaction, the efficacy of a topical application of caustic solution in cases not only of chronic disease of the larynx but in all cases of inflammatory irritation of the glottis, I came to the conclusion that it might operate beneficially in the hooping-cough ; and, after a pretty extensive trial, I have not been disappointed." *

In closing this interesting chapter on topical medication, in hooping-cough, Dr. Watson expresses the hope that the day is not distant when the treatment, " so well described by these excellent writers, and the usefulness of which," he says, "I have now been enabled to establish, not only by its results in my own practice but also in that of M. Joubert, will be more favorably received in this country, and more generally adopted by British practitioners of medicine ;" a hope which, by my own experience, I have been led most sincerely to entertain with regard to the practitioners of my own country.

6th. *Of the Effects of Nitrate of Silver in the Treatment of Spasmodic Asthma.*

If the histological observations of some recent pathologists be correct with regard to the nature of spasmodic asthma, it might be anticipated, *a priori*, that the application of a solution of nitrate of silver to the affected parts, would produce a most beneficial effect on the disease ; and so far these expectations, in the experience of all those who have tried this remedy, have been entirely fulfilled. It is well known that there are only certain points in the course of the air-tubes at which a spasm can occur sufficient to produce the dyspnœa that takes place in asthma, and these portions are where the contraction of muscular fibres is not prevented by the existence of cartilaginous rings ; the principal points are at the extremities of the bronchial tubes, and at the rima glottidis. Williams, in his work on the *Pathology and Diagnosis of Diseases of the Chest*, expresses the opinion that the contraction of the former, "the bronchial mus-

* Monthly Journal of Medical Sciences, Dec. 1849, p. 1290.

cles, is a sufficient cause of spasmodic asthma."* Dr. Hastings believes that the constriction occurs in the larynx,† and Dr. Watson declares that the constriction in the minute bronchi cannot satisfactorily explain the complete stoppage of the breathing which occurs in the paroxysm. For this it seems absolutely necessary to assume that closure of the glottis likewise takes place on these occasions.‡

Founded on these views of the nature of this disease, the last two named authors have adopted the plan of topical medication, in spasmodic asthma, and this treatment in their hands has been attended with complete success.

"In spasmodic asthma," Dr. Hastings remarks, "percussion elicits a tolerably clear sound from the thoracic walls. On applying the ear or the stethoscope below the clavicles, sibilant and sonorous rattles are heard. These diminish as we proceed in the examination towards the abdomen, but increase as we pass upwards towards the neck, and over the trachea or larynx their greatest intensity is evident, which region is, moreover, the real seat of the disease. The sounds heard in the chest are transmitted from this part, and this fact admits of ready demonstration.

"If a sponge soaked in a solution of the nitrate of silver be passed over the diseased surface, and the chest be examined immediately afterwards, the sibilant and sonorous rattles will have partially or entirely disappeared, and those of the laryngeal region become so much diminished that they cannot be propagated into the tubes within the lungs. Yet how repeatedly have I seen such patients with their chests cupped, leeched, and blistered!"§

Several interesting cases of this disease are recorded by Dr. Hastings as having been successfully treated by topical medication. In one instance, the applications of a solution of the nitrate of silver failed to effect a cure when the author substituted a saturated solution of the bicyanuret of mercury in distilled water, under the use of which, and of light tonic com-

* Pathology and Diagnosis of Diseases of the Chest, &c., p. 91.
† Op. citat., p. 66. ‡ Op. citat., p. 127. § Ib., p. 66.

bined with nitric acid, the patient rapidly improved, and was restored to permanent health.*

"The state of the larynx," says Dr. Watson, "in spasmodic asthma, has not hitherto received adequate attention either from pathologists or physicians; in this opinion he expresses himself fully confirmed, that a morbid contraction of the larynx is a frequent cause of the disease, and that a spasm of the glottis dependent upon a lesion of this organ, constitutes an essential part of a fit of asthma.

On the subject of the treatment of this disease by local measures, Dr. Watson remarks: "I am far from wishing to laud the topical applications beyond what they deserve, but I am sure any medical practitioner will bear me out in saying, that the ordinary treatment of asthma, by bleeding, general or local, by emetics, antispasmodics, opiates, and mercurials internally, with blisters and various other counter-irritants externally, has seldom been followed by even a partial success in these cases." "There is here, therefore, an evident blank in therapeutics, for no agent hitherto proposed has been found capable (says Dr. W.) of removing or greatly diminishing this morbid contractility of the air-tubes."† A solution of caustic, in the opinion of the author, "applied to the interior of the larynx, supplies this defect, fills up the blank." And he has recorded in his work many severe cases of spasmodic asthma, successfully treated, in the management of which no other means were employed, "but the regular application of caustic to the affected parts, at first every day, and afterwards every second day."‡ In the last edition of my work on "*Diseases of the Air-Passages*," several cases of spasmodic asthma are recorded, in the treatment of which cauterizations were employed with entire success; it has been, therefore, a cause of gratulation, that the statements of your Committee, with respect to the efficacy of the treatment have been fully confirmed in the experience of these distinguished practitioners.

Since we commenced drawing up this report, a new work, *On the Local Treatment of the Mucous Membrane of the Throat, for Cough and Bronchitis*, recently published in London, by J.

* Ib., pp. 68–9 † Op. citat., pp. 134–6. ‡ Ib., p. 132.

E. Riadore, has been received. This work, in which topical medication for the treatment of many affections of the air-passages is advocated, contains nothing particularly new or important on this subject. The only novel suggestion made by the author, is one respecting the *temperature* of the solutions to be employed in local treatment. In spasmodic asthma, particularly, the author urges the employment of a *hot* solution of nitrate of silver. Indeed, he advises that, "in all spasmodic cases of the organs of the throat, the remedial appliances—the solutions, should be made hot, and used as warm as they can be borne."*

7th. *Of the Effects of Nitrate of Silver employed as a Topical Remedy in the Treatment of Tuberculosis, following or complicated with Bronchial Inflammation.*

Ten years ago, in 1846, in a work to which I have before alluded (*On Diseases of the Air-Passages*), topical applications of the nitrate of silver were recommended to be employed in the treatment of Tuberculosis. On page 260 of this work is the following declaration: "Among the cases of laryngeal and bronchial affection, which, during the year 1845, came under my care, twenty-five presented decided symptoms of pulmonary phthisis, complicated with follicular disease. As the pulmonary symptoms, in a majority of the cases, had supervened upon the original glandular affection, topical measures were employed—not with the expectation of their proving ultimately remedial, but with the hope of deferring the pulmonary, by allaying the laryngeal disease; and the success which has attended these efforts in a majority of the above cases in mitigating the sufferings and in prolonging the lives of my patients, has been to me a source of the highest gratification."

This proposition to treat a general disease by local measures, was not at that time, received with favor by the medical profession. And yet, the plan has since been adopted by large numbers of the intelligent portion of the profession in our own, and in foreign countries, who have given the highest testimony in its favor. Not only is laryngeal inflammation present in varying degrees of intensity in the early period of

* Ut supra, p. 96.

tuberculosis, but recent histological observations have fully established this pathological fact, that in all cases of tubercular deposit, there occurs in the immediate vicinity of the exudation more or less of an inflammatory action, in which all the adjacent structures are involved. The bronchial membrane and the pulmonary parenchyma become at once congested, and subsequently inflamed. The terminal extremities of the bronchi, says Prof. Bennett, are among the first structures affected, and as the tuberculosis proceeds, all the appearances characteristic of chronic bronchitis are produced, and are constantly going on in the progress of a case. "Consequently," he observes, "the great problem to be worked out, in the treatment of pulmonary tuberculosis, is that while, on the one hand, it is a disease of diminished nutrition and weakness, and consequently requires a general invigorating and supporting system of treatment, on the other, it is accompanied by local excitement, which demands an antiphlogistic and lowering practice." *

It is to meet this last indication, to subdue the local inflammatory action in the immediate vicinity of the exudation—an action which, if continued, will not only effectually prevent the disintegration and absorption of the tubercular mass already formed, but which will tend to augment the mass—that applications of the nitrate of silver solution to the congested and inflamed membrane, are advised in early, as well as in advanced tuberculosis.

Dr. Hastings, in his *Treatise on Diseases of the Larynx and Trachea*, has devoted a chapter to the subject of the topical treatment of tubercular, when complicated with laryngeal disease. In the earliest stage of this affection, "it should be met," says Dr. Hastings, "by the most vigorous treatment, and I know of no means so capable of arresting or removing it, as sponging the windpipe with a solution of the nitrate of silver." † Several cases are narrated by this author, which were successfully treated by this plan, one of which, as it is that of a surgeon of the army, and is of great interest, I shall take the liberty of giving, abbreviated. This surgeon "returned from India, in 1846, on sick certificate, having suffered for about two years

* Op. citat., p. 68.

† Op. citat., p. 130.

previously from pulmonary disease. On leaving India, the symptoms were as follows: Cough, with copious muco-purulent expectoration, occasionally mixed with blood; frequent pain in the upper portion of the left chest, increased on deep inspiration; much prostration of strength, and considerable emaciation." *

After his return home he improved somewhat in health and strength, up to October, 1847, when he was suddenly attacked with acute inflammation of the left lung. From this attack he gradually recovered sufficiently to go to London, in 1848, for the purpose of consulting Dr. Hastings. About a week after his arrival he was again attacked with acute inflammation of the lungs, in which the larynx and trachea were involved. "At the commencement of this attack," says the patient himself, "the symptoms were as follows: Pains in the clavicular portion of the left side of the thorax, extending downwards; hurried and difficult respiration; inability to expand the chest, almost in the slightest degree, also when lying on the left side and back; quick pulse; much prostration of strength and extreme emaciation. I derived the greatest and almost immediate relief, when suffering from difficulty of breathing, from having the larynx and trachea sponged with a solution of the nitrate of silver. This attack gradually yielded to the treatment employed, when I was put on a course of the pyroacetic spirit, and cod-liver oil.

"This treatment has been continued at intervals ever since, and to which I may attribute my restoration to my present state of health."

Dr. Hastings adds: "The writer of the above was, when he consulted me, about two years and a half ago, under forty years of age, and weighed 10 st. 6 lbs.; he now weighs 11 st. 4 lbs. When I first saw him, he had a large gurgling cavity in the upper lobe of the left lung; two or three of his medical friends laughed at the bare idea that any substantial good could be done for him. After completely removing the inflammation in the larynx and trachea, by sponging that passage twice a week with a solution of the nitrate of silver for three months, the

* Ib., p. 130.

disease in the lungs appeared gradually and steadily to diminish; and although at Christmas last, and for some time previous, he had lost all the general symptoms of phthisis, the cavity, which then was dry, and much smaller, was however still very evident. But now it has entirely disappeared—slight bronchopony is heard over its former seat, and more or less imperfect respiratory murmur exists in the upper portion of the lung, with considerable flattening of the superior part of the left chest." * * * *

"My object for inserting this case here is for the purpose of showing the great advantage to be derived from sponging the laryngo-tracheal tube with the nitrate of silver, in the early stage of tubercular laryngitis." *

Still more extensively has Prof. Watson considered this subject; the employment of local treatment in tuberculosis; and he has recorded several most instructive cases, in which the larynx was advantageously treated by topical means, in both incipient and advanced pulmonary phthisis.

In combination with, or to be followed by appropriate general remedies, he urges the importance of the use of applications of nitrate of silver to the larynx, in all those incipient cases of phthisis in which the cough is caused by actual laryngitis, by the irritation produced by the passage of bloody sputum; or by secondary nervous irration of the larynx. The cough in these cases, he declares, "is not simply a symptom in the ordinary acceptation of the term; it is itself a disease, the result of organic change in the larynx, which increases the pulmonary affection. In treating the larynx, therefore, with a view of diminishing the cough, the physician is not to be looked upon as irrational, but on the contrary, as aiming his remedial measures at the very source of much of the distress of the patient and of the fatal progress of the disease." †

No unprejudiced person can read the testimony embodied in the cases reported by Dr. Watson, without having the conviction forced upon him, that in many of these instances of early tuberculosis an arrestment of the pulmonary disease was brought about by the measures adopted. Not that the author would

* Op. citat., pp. 131–133.

† Op. citat., p. 168.

represent these cases as positively cured, "for undoubtedly," he remarks, "the tendency to tubercular disease still remains in the constitution. though its local manifestation has ceased to exist." * * "Formerly," he continues, "there was positive evidence of an actual consumption: now, there is no such evidence, but on the contrary, all the signs and symptoms of perfect health." * Some may doubt the relation of the topical treatment to the successful issue in these cases, says Dr. Watson, but no one can fail to perceive, "that the cough first abated as the laryngeal irritability was removed, then the general health improved. and *sometime afterwards*, the pulmonary condensation was found to have disappeared." *

In the advanced stage of phthisis, in which the cough is caused or aggravated by laryngeal ulcers; or, in which the passage of purulent sputum produces laryngeal irritation, topical applications, says Dr. Watson, although they cannot be considered in the light of *curative* means, "ought nevertheless to be practised whenever the patient can bear them, as the surest and best means of relieving him from the pain and distress which are caused by the state of the larynx; and when cautiously pursued, even in such cases, I have known more than one life prolonged for months and even years." †

Dr. Cotton also, in his work on consumption, recommends the topical application of nitrate of silver to the larynx, especially in the early stage of the disease. "I would not advise it to be practised, however," says Dr. Cotton, "when the pulmonary disease is in a *very* advanced stage, and the strength of the patient much exhausted." Its use by him is restricted to the early period of the disease, when the lungs are not much affected, nor the strength of the patient reduced; it is this stage, he says, which presents the most promising opportunities for its employment.

The testimony of Dr. A. Scott Alison, in his treatise on the *Medication of the Larynx and Trachea*, is decidedly in favor of the employment of the nitrate of silver, in the treatment of that cough and irritation of the glottis, which are dependent upon the presence of tubercles in the lung. "Much comfort and

* Ib., p. 172. † Ib., p. 180.

benefit," he says, "have been derived from its use, both when the tubercles have been crude, and when they have become softened. The presence of undoubted cavities in the lungs, the breaking down of tubercles, and the expulsion of their débris, have not prevented this application from being decidedly useful."*

Prof. Robert B. Todd, Physician to King's College Hospital, London, who has had much experience, in the treatment of pharyngo-laryngeal and bronchial diseases, by topical medication, has embodied in his "Clinical Lectures," recently published in the *London Medical Times and Gazette*,† some of his views, and recorded his experience in relation to this subject. In the treatment of these affections, he employs and recommends "the local application of a solution of nitrate of silver (ʒss to the ℥j), by means of a probang thrust behind the epiglottis down to the glottis, on the plan of Dr. Horace Green, of New York." "The patient," he says, "can always tell whether the sponge enters the larynx or not, from the great irritation it excites when it passes into the glottis; and in the withdrawal of it, the operator feels a certain resistance caused by the sponge being grasped by the muscles of the larynx, which resistance is not felt when it simply passes into the œsophagus."‡ In one case reported by Dr. Todd, in which the symptoms indicated confirmed tubercular disease of the lungs, complicated with chronic thickening of the mucous membrane of the larynx and epiglottis, with ulceration of the chordæ vocales, and of the ventricles of the larynx. applications of a strong solution of nitrate of silver to the diseased parts, tended invariably greatly to relieve the extreme irritability of the larynx, for "the patient always expressed herself as much better after each application, and her pain was relieved, although only temporarily." But in the milder forms of the disease, the topical treatment often proved permanently beneficial; for Dr. Todd assures us, that he "could tell of numerous instances of coughs of the most troublesome kind, and of long duration, that had resisted all the ordinary cough medicines, and which had

* Medication of the Larynx and Trachea, &c., p. 8.

† Medical Times and Gazette, No. 139, p. 207. ‡ Ib., p. 210.

yielded to three or four applications of the nitrate of silver."

Persons laboring under such symptoms as these, he declares, are often treated for bronchitis, and take large quantities of expectorant and other medicines, for the relief of the cough. The seat of the irritation, upon which the cough depends, is thought to be in the bronchial tubes, and its real position (the fauces) is overlooked.*

I have already alluded to the experience of Prof. Bennett, of Edinburgh, in the use of local applications for the treatment of those laryngeal diseases which, he assures us, are frequently mistaken for, or associated with, pulmonary tuberculosis. Dr. Bennett closes his valuable work on the pathology and treatment of pulmonary tuberculosis by the following practical conclusions :—

"1st. That not unfrequently diseases, entirely seated in the larynx or pharynx, are mistaken for pulmonary tuberculosis.

"2d. That even when tuberculosis exists, many of the urgent symptoms are not so much owing to disease in the lung, as to the pharyngeal and laryngeal complications.

"3d. That a local treatment may not only remove or alleviate these complications, but that, in conjunction with general remedies, it tends in a marked manner to induce arrestment of the pulmonary disease." †

And here, the duty of the commission appointed to report to this Association "on the use and effect of applications of nitrate of silver to the throat," may be considered as fulfilled, and their work accomplished.

It was our intention, however, to have illustrated the great value of this therapeutic agent, in the treatment of the different forms of disease, to which we have referred, by the history of cases which have fallen under our own observation, which would have corroborated fully the favorable reports made by the preceding authors. But this paper is already sufficiently extended. Justice to this subject, however, would not be done, should we fail to allude altogether to the success, which, during the last eighteen months, has attended the still further extension of top-

* Op. citat., p. 209. † Ib., p. 142.

ical medication, in the treatment of thoracic disease, effected by means of the operation of *catheterism* of the air-passages, or the injection of a solution of the nitrate of silver into the bronchial divisions.

During the last eighteen months, or since October, 1854, over one hundred patients, embracing cases of both pulmonary and bronchial disease, have been treated by this form of topical medication, conjoined with appropriate general remedies. The history of this plan of treatment and the result of the practice, results which have been in a high degree satisfactory, have been brought before the profession in papers read before the New York Academy of Medicine; before the State Medical Society of New York; and, more recently, a detailed report, embracing a statistical table of one hundred and six cases, thus treated, was published in the pages of the *American Medical Monthly*. Besides their publication in this country, most of these papers have been reprinted in some of the medical publications of Great Britain, and have also been translated and republished in a few of the leading journals of France. It will therefore be unnecessary to bring the whole subject before the Association; and we shall close the present report by a brief analysis of the cases embraced in the statistical table, which, with the history of many of these cases, may be found in the *American Medical Monthly* for March, 1856.

Of one hundred cases of throacic disease treated by catheterism of the air-passages, seventy-one of the sum total are recorded as cases of *tuberculosis*. Of this number, *thirty-two* were considered cases of *advanced phthisis*—cases in which tubercular cavities were recognized in one or both lungs; and *thirty-nine* cases of *early phthisis*. Of the first division—advanced phthisis—fourteen have since died. *Twenty-five* were more or less improved; their lives being apparently prolonged by this method of medication. *Seven* only of the thirty-two cases of advanced phthisis were not benefited by the injections.

Of the *thirty-nine* cases of incipient tuberculosis, twelve of this disease have apparently recovered. Five more of this number are now, or were, at the time of making the report, in the enjoyment of a good degree of health. With respect to

the above twelve cases, I say *apparently* cured ; for, although the appearance of these patients, as manifested both by the physical and rational signs, is indicative of an ordinary degree of health, yet in a disease like that of tuberculosis, every medical man is aware that one year is a period too brief to speak decidedly with regard to the positive and final result.

Of the remaining *twenty-two* cases, many of whom, at the time of the report, were still under treatment, *seventeen* had been greatly improved by topical medication ; three more had been moderately benefited ; while *three* only had failed to obtain any advantage from the local measures which had been adopted.

Of the *twenty-eight* cases of *bronchitis*, sixteen had been dismissed cured, or so much improved as to require no further treatment. All others had been greatly benefited, although some were still under treatment at the time of making the report.

Finally, in view of all that has been accomplished by topical medication, the chairman of the Committee would reiterate the declaration made in the first paper communicated to the professional public on this subject, that, "the results of this method of treating disease, whether it has been employed in bronchial affections, or in the commencement of tuberculosis, have already afforded the most gratifying indications that practical medicine will be greatly advanced by this discovery." *

The Developments of, and Causes of Variety in Mankind. A Lecture on Ethnology. By DR. M'ELHERAN, M.R.C.S.E.

[At the meeting of the Academy of Medicine, on the 5th of November, there was a large attendance of the Faculty, drawn together to listen to a lecture on Ethnology, by Dr. M'Elheran. We give a sketch of the lecture, and by the kindness of the lecturer are permitted to add his report on "Cranial Magnitudes," a mere outline of which could be given to the Academy :—ED.]

The lecturer said that he would have sought the high privilege of addressing them two years ago, but he had found the

* American Medical Monthly, Jan. 1855, p. 25.

field of his investigations still widening, and he was anxious to come before the Academy with an essay as complete as possible. From our works on Archæology, our museums, and from dentists, hatters, &c., he had reaped a rich harvest of facts. This world's-fair of human specimens, where the sons of men stand side by side, is the greatest school for the student of Ethnology. Whatever credit his work might attain, is therefore due to the free spirit and kindly coöperation of the members of the profession in his adopted country.

The lecturer maintained that Ethnology has hitherto been only an empiricism, because the transcendental doctrines of development, such as they are, have been misapplied or entirely disregarded by Ethnologists. He contends that nature has repeatedly changed her mode of operation, and that she converged her forms in approaching Man, who presents the most distinct evidence of antagonisms, of unity and variety, and of a versatile vital principle, the *animus* of which is not to be confounded with the *anima*, or soul.

He believed that the true doctrine of development, which he briefly elucidated, and the radiating degeneracy of the human family from the Celtic centre—supported the dogma of original unity. But races have been stereotyped, and evidently are as permanently distinct as if they had been created separately. Oppressed Celtic types have repeatedly regained their true position physically and mentally, but no inferior Gothic or other carnivorous race ever rises above a certain level ; for in them the vital principle itself seems impaired. They are *stereotyped.*

The lecturer demonstrated that the brain and skull of the herbivora are superior to those of the carnivora, and that therefore we must have a new classification of animals.

He divides men, according to natural history, into *omnivora*, *herbivora*, *carnivora.* These are the Types, found under various forms, *infantile*, *athletic*, *intellectual*, in the several continents of the world. We find Ethnology a chaos of contradictions, because authors have not discriminated between forms arrested in development, accidental *types*, and permanent *stereotypes.* The common facts of natural history, which elucidate these phenomena, have been disregarded. Transcendental anatomy explains the varieties of forms ; that is, degrees of development.

Man is naturally omnivorous, but he degenerates and diverges into the other stripes. This fact supplies a philosophic basis for Ethnology, including phrenology and physiognomy. The oval-headed, fine-limbed, *beau ideal* of the Celtic nations is the central type and perfect form, contrasting with the Goths, Kalmucs, and other square-headed carnivora, and with the true Negroes, Hindoos, and other narrow-headed herbivora. The unmixed, carnivorous Anglo-Saxons, have crania like the red savages, being generally broad, short, and distorted. And such is the common characteristic of the Gotho-German at this day. The average white American head is a regular long oval, like the Irish, Welsh, and Highland Scots. The Aborigines of the Old World were and are degenerate in proportion to their distance from the Celtic Mediterranean, degradation being most rapid southward into Africa and northward into Europe and Asia. Degeneracy is more gradual eastward.

The great trunk of the Celtic or central type stretches through India, where it is modified. In China it is enfeebled and stereotyped. It reappears in Central America, which was the high central realm of the New World, as Celtica was of the old. This radiating degeneracy of men is like a process of crystallization, the centre is most perfect—the superfices amorphous. The outer rind of the tree of life is most *suborganized.* These observations apply to races in their *aboriginal* nativities. The Anglo-Saxons, for example, still retain the evidences of their descent from the outer rind of humanity in North Europe.

In 1850–51, he made statistics of complexion, &c., of the inhabitants of Great Britain. He was the first to analyze that conglomeration of races, and to demonstrate that the Celtic type of Shakespeare and Wellington is dominant. His published address to the British Association, and his memorable controversy with the *Times*, in October, 1852, had extinguished Anglo-Saxonism in Britain, but the false theory still prevails in America. His friend and teacher, Dr. Knox, of Edinburgh, although merely theorizing, had inoculated our whole scientific and public press with Anglo-Mania. He (Dr. M'Elheran) had spent years of travel, and study, investigating this special subject. He made and compared collections of portraits of the Celtic and Saxon races—specimens of which he now exhibited.

By a combination of anatomical and artistic skill he had thus been enabled to enlighten dubious history. Beginning with living facts, he had traced the Celtic type back through Italy, Greece, Asia Minor, and Egypt, in illustration of their monuments, collections of crania, portraits of antique statuary, coins, etc., particularly in the new gigantic work, the *Trésor de Neumismatique*. While even the latest writers, Nott, Davis, &c., still erroneously dogmatize over a few crania, he had broken up new fields of inquiry, in the reports of hatters, dentists, hair-dealers, &c., and produced aggregate millions of facts in proof of our Celtic origin.

The history of emigration and the peculiarity of our language, so different from the Saxon dialects of East and North England, prove that our ancestors came from the Celtic South and West of England, and the other persecuted Celtic parts of the three kingdoms—not to mention Celtic Spain, Celtic France, and Celtic Belgium.

The Celto-Germans from the borders of the Rhine, probably out-numbered the Gothic immigrants from North Europe, whose type has been submerged in the general Celtic tide. The true American type is therefore not a hybrid Anglo-Saxon, but a pure bred Celtic race; as their language, their history, their physique, and impulsive, versatile genius testify.

This lecture, which fixed the attention of the learned assembly during two hours, was very profusely illustrated with cranial forms and portraits of the Celtic and Gothic races. By merely changing the head-dresses and style of wearing the hair, the lecturer demonstrated that the physiognomy, as well as the phrenology and lathy figure of the French and Gaelic peasantry is exactly and unquestionably the same as the typical American, such as Washington, Jackson, Taylor, Clay, Webster, &c. And that the Anglo Saxon is like the red Indian and other carnivorous savages.

The Academy expressed their approbation of the demonstrations by prolonged rounds of applause.

It was proposed by Dr. J. W. Francis, and seconded by Dr. Jos. M. Smith: That the thanks of this Academy be tendered to Dr. M'Elheran for his able and lucid exposition of this intricate subject—The Developments and Causes of Variety in Mankind. Passed unanimously.

Considering the vast future of our country, and the international interests involved in the question of race, this discourse of Dr. M'Elheran may be considered an event in our history, as well as a triumph over the popular Anglo-Saxon error.

Report on Cranial Magnitudes.

"I made extensive inquiries among English, Scotch, and Irish hatters. And the result is that there is very little difference in the average size of heads in the three kingdoms.

Messrs. Wright & Stanley, Lower Ormond Quay, Dublin, the most extensive wholesale hatters in Ireland, supply the four Provinces. Nearly all the hats they sell, range in size from $6\frac{7}{8}$ to $7\frac{3}{8}$. The largest number sold being $7\frac{1}{8}$, or $22\frac{3}{8}$ inches circumference of head. But they sell a great number of extra sizes, which makes the average of the Irish head $22\frac{1}{2}$ inches circumference. This is a little above the English average, and about equal to the Scotch. I was astonished to find a remarkable uniformity in the reports of the hatters' sales everywhere. And it is still more remarkable, that the average of the white population of the United States, is the same as the Irish, according to the hatters' tables supplied to Dr. Nott, of hats sold in Newark, New Jersey, and Mobile: noticed hereinafter.

The largest Irish heads are in Ulster and Connaught and the Southwest of Munster. The most purely Celtic rural districts call oftenest for the *extra sizes*. This is particularly the case in Donegal, Connaught, and Kerry, and these districts have supplied an over proportion of talent.

Dublin, so long within the English pale, and mixed with English and Danish blood, has a less average size of the head than Belfast, which is more enterprising and more Celtic—having been colonized by the West Highlanders, who mixed with the other pure aboriginal Celts.

No country in the world can display a nobler or larger cranial development, than is to be seen among the Irish clergy, lawyers, physicians, surgeons, &c., who are nearly all of pure Celtic blood, and whose preëminent talents are acknowledged by England—even by England.

The laborious learned professions are filled almost entirely

by the poor descendants of the old Celtic gentry and nobility, —their crania are superb. Truth demands this acknowledgement.

We need not be surprised at the wide famed ability, the deep mathematical, as well as the lighter and brilliant talents of the Irish peasant children, when we go into the national schools, and behold their beautifully oval crania and small, though often rough features. It is a treat for a phrenologist, and has called forth repeated encomiums from surprised English tourists,—the fine head and intellectual and expressive features, forming such a contrast with the lumpish dull children of the Saxon boor.

I have been constantly trying the sizes of heads, and I have found innumerable instances, among acquaintances, who, I know are pure Celts,—of heads measuring 23, 23½, 24, and 24½ inches in circumference. But what is more remarkable, these Irish heads, small or large, wherever I find them, are very high. Heads 23 inches in horizontal periphery, for example, usually measure 16 inches across, from one *auditorius* or opening of the ear to the other.

The Anglo-Saxon Englishman in the East and Northeast, and most of the midland counties, has a round head.

The men of Liverpool and Manchester, and the borders of Wales, and Wales itself, and the Southwest of England, are far more Celtic than the Easterners, and they have larger and more oval heads, a much finer physique and more energetic temperament, like the Irish and Americans. I can positively assure Dr. Morton's friends, that there is not an immense superiority in the size of the English heads, as they have been led to suppose. On the contrary, the whole average is about the same on both sides of the Atlantic.

It is also a positive fact, that as in England, so it is in Scotland and Ireland, the most Celtic parts have the largest heads, and the best shaped.

I ascertained that the average size of Glasgow hats, is from 7⅛ to 7¼, while in Edinburgh it is a little less, being 7 to 7¼. The former giving 22⅜ to 23⅛ inches circumference of head, the latter 22 to 22¾ inches circumference.

Edinburgh standing at the North of the Saxonized East

Lothians, has therefore a less average capacity than Glasgow, which is the most progressive and most Celtic city in Great Britain, having been made up almost entirely by the West Highland Scotch, and by the Irish.

But Edinburgh calls for the largest number of extra sized hats, which perfectly agrees with the fact, that the *modern Athens* is the residence of the great body of Scottish talent. In a subsequent paper, I will prove that the *perfervidum ingenium Scotorum* is, and has always been Celtic. Edinburgh is the artistic and scientific capital of the Gael, while Glasgow is their citadel of enterprise and hard work.

The most conclusive and unquestionable evidence, is derived from the wholesale and retail hatters in New York and elsewhere. Most of these gentlemen have been many years in the retail trade, so that they can speak authoritatively regarding the relative sizes of hats required by the various States of the Union, and the various races of men.

I will now give the reports which I have received from the hatters of New York and Philadelphia. and I may here premise that the hatters of the latter city have the best opportunity of judging of the comparative shape and size of the crania of the Germans in Pennsylvania and the West.

I was the first to institute an extended enquiry among the hatters of Europe. I have called on hundreds of them personally, and gained a mass of facts unprecedented in the history of ethnology.

No one but myself that I know, in Europe or America, has taken advantage of the hatters' *conforms* made by the *conformateur*, which exhibits the exact shape of head in the horizontal periphery.

Dr. Nott made an effort to supply something like a statistic of sizes only. Accordingly he applied to four hatters, three in Mobile, and one in Newark,—Messrs. Vail & Yates. The latter say that they supply the West principally, "where there is a large proportion of German population"; also that the sizes of these hats were a little larger (about one-fourth of an inch) than those sold in the Southern States. This useful observation was confirmed by the three hat dealers in Mobile.

From this Dr. Nott concludes that the Germanic head

is much larger than the Celtic, and he says, "the measurements of the purest Teutonic races in Germany and other nations in Europe, would give a larger mean, and I have *reason to believe* (but he keeps the reason to himself) that the population of France, which is principally Celtic, would yield a smaller mean" (than the American—22½ inches circumference).

Now such assertions, when unsupported by fact, are altogether idle and gratuitous, and unworthy of a scientifie inquirer. Dr. Nott gives but one single fact to support his dogmatic assertion (that the pure Teutonic is the largest skull), viz: the measurements of five so-called English oval skulls (Celtic chiefly).

It appears that the Virginians as a State, the Irish, Scotch, and Western pioneers, have the largest heads in America; next in size are the Northern and Eastern States. The Southern States have, if anything, smaller heads than the Northern—though some hatters here doubt this general opinion, because the native Spaniards have large oval heads. But there is no doubt that the Cubans, Mexicans, and *mixed* South Americans, have smaller heads than the United States men.

The reports of the hatters in Mobile, sent to Dr. Nott, refer to the Western States chiefly, where the heads are above the Eastern and Northern standard. Dr. Nott has erroneously concluded that the whole of what he calls the Anglo-Americans are up to this Western standard, 7 to 7¼, and that the Germans are even above it, and that the large size of Western average, is due to the German element. Such conclusions are entirely gratuitous, mere guesses, contrary to the facts.

The Germans wear larger hats than the Americans, but this is no evidence that they have larger or better brains, because the Americans have, like the Irish, high arched heads, and fill their hats more completely than the angular Germans do theirs. No disrespect meant to German angularity.

New York Hatters' Reports on the Sizes and Shapes of Human Crania.

W. H. Beebe & Co., Wholesale Hatters, Water-street.

Met Mr. Beebe himself, an affable and intelligent gentleman.

He has been in the hat trade about forty years, and has taken an interest in observing the shapes and sizes of heads among the different States and races. He supplies hats to every part of the Union. Has found that Virginia and the Western States require larger hats than any other parts of the Union. The New England heads are about the same as the New Yorkers. Spent most of his life in the retail hat trade, and can confidently assert that the Irish heads are larger than those of any other race of men.

The Celtic head is a long oval, as seen among the Irish and Scotch. The English head is also long, but not so uniformly oval as the Irish. The average American head is a long oval, exactly the same shape, but smaller than the Irish. The Americans are most easily fitted with hats; 1st, because they have the most regularly formed heads; and 2d, because the blocks are made to suit the national shape and size. The Irish have not a large, broad, but a projecting forehead, and high at the top of the head, over the ears.

The Germans have smaller heads than the Irish, but they wear larger hats than the Americans. Nearly ever man's head is a little irregular and largest on the right side. The Germans have the most irregularly formed heads of any race of men he has seen, being an irregular square, broad and flat behind, and flat on the top. The great breadth between the ears throws the hat out of shape, so that you will see the leaf of the hat on a German turned up behind and in front, unless when the hat has been made to fit. The German head is almost universally of the round or irregular square shape.

The average size of hats sold in America, taking all the races and States together, is 7, $7\frac{1}{8}$.

Thus, in putting up a dozen hats, they would run thus :—

Number of hats -	1	2	3	3	2	1	=12
Size - - -	$6\frac{3}{4}$	$6\frac{7}{8}$	7	$7\frac{1}{8}$	$7\frac{1}{4}$	$7\frac{3}{8}$	

These figures vary according to the locality, the West requiring a greater number of extra sizes,—the extreme southern States and Mexico and Cuba requiring a smaller average.

In a regular treatise I will supply all the wholesale hatters' reports,—at present it may suffice to say that they are all substantially the same as the above, in Philadelphia as well as in New York. I may add a few in the retail trade.

Retail Hatters' Reports.

LEARY, Astor Buildings, Broadway, sells more of 7, 7⅛, than of any other sizes. Has observed the shape of heads before and since the conformateur came into use.

The Americans have almost universally long, oval heads. The Irish have the same shape, but generally larger size. The Germans have square, irregularly formed heads,—if anything, larger than the Americans, but not as large as the Irish.

KNOX, Broadway, sells most of 7, 7⅛, and 7¼.

Americans oval, Irish long, Germans round. The Irish have the largest heads.

The collections of *shapes* taken by the conformateur agrees with the report.

BEEBE, Broadway, average 7, 7⅛. Studies phrenology.

Americans long, oval, some very long. Irish the same shape, but larger. They are the largest of any race. The English and Scotch are also oval. The Germans are irregular and square, flat behind and on the crown. The Irish and Americans are high on the crown.

The specimens which Mr. Beebe has kindly supplied me from his very large collection of shapes accord with the report.

DAVID, Broadway, averages 7, 7⅛. Has not made particular observations on heads of the nations, but finds the Irish generally large; yet the Americans, Germans, and Negroes also, present occasionally very large sizes.

GENIN, Broadway, average 7, 7⅛.

Americans oval, Germans round, Irish long and above the average.

G. RUCKOLDT (German Hatter), Broadway, average 7, 7⅛.

German and Irish heads larger than American. The Germans (his countrymen) have very irregularly shaped heads, being short, angular, and contorted in a manner not observable among other nations. The French heads are more oval than the Germans, but less oval than the American and Irish.

F. BOULLAC, Broadway. Average 7, 7⅛. More sold below than above these sizes. Americans and Irish long. The Ger-

man head is angular and flat. The French head is more evenly round or oval than the German.

AMIDON, Broadway. Average 7, 7⅛.

American heads, long, oval; Irish do.; German round; the French not so long as the American, nor so round as the German. All races, including the Negro, have occasionally very large heads. The Irish have the largest heads on a general average.

BEAUDIN (French Hatter), Broadway. Average 7, 7⅛; sells more below than above these figures.

Americans and Irish have the longest shaped heads, projecting above, and hollow at the back of the neck, so that their hats, as may be usually observed, incline to fall back. The German head, on the contrary, is short and angular, flat above and behind, very broad in comparison between the ears, so that they throw the leaf of a hat out of shape. The French have high arched heads, and not so short nor angular as the German. The North and West provinces of France have longer and more oval heads than the South and East. The shape of the head in France, Spain, and Italy is much the same. He speaks from his own observation and conversations with other European hatters.

ESPENCHEID (German Hatter), Nassau street. Average 7, 7⅛. Does a large business among Germans and other foreigners.

American head, long, oval; Irish, long, oval, and the largest of any race in America; the English, oval; German, short and square, and flat on top. These have also the most irregularly shaped heads. Many of them have uncommonly small heads, but occasionally they present the extra sizes.

HEWISON, Chatham street. Average 7, 7⅛.

American, long, oval, but smaller than the Irish, who have the same shape. The German heads are broad, short, angular, and hard to fit; they throw the brim all out of shape, making it cock up behind and before, as may be observed on Germans in the street. Irish largest.

RAFFERTY & LEASK, BROWN, WATSON, RIORDON, and others

in Chatham street and Bowery, give substantially the same report as the above.

FOSTER, BUCKLEY & HIAT, also LESTER, give the same report in every respect—that the American is long, oval; the Irish, long and the largest; the German, square, and flat behind, smaller than the Irish, but larger than the American. Mr. Lester says that the Germans take larger hats than their heads can fill, in consequence of their irregular angularity.

The foregoing reports are invaluable, when we consider their unanimity, and the millions—the entire adult male population —that form the ground work.

No statistics can be more complete and satisfactory. All the collections of skulls in the world taken together sink into insignificance compared with the hatters' reports of millions, and the hundreds of thousands of shapes taken by the *conformateur*.

I collected several thousands of the shapes or conforms, given to me by the various hatters as specimens of the different races, the names and sizes being marked. In order to test the accuracy of the hatters' report, I made comparative measurements of the Germans and Celts.

On an average, it takes 129 German conforms, laid edge to edge, longitudinally, to cover a line of 12 yards. Laid in the same way, it takes only 114 Irish to cover the same space—showing that the Germans are the shorter by 15 in 12 yards. Laying them carefully edge to edge, sideways, we get the transverse diameter, and herein the Germans have the advantage; 180 German conforms cover 12 yards; 187 Irish conforms cover 12 yards—showing that the Germans are broader, taking 7 less than the Irish to cover the 12 yards. The greater breadth of the Germans is, therefore, more than doubled by the greater length of the Irish.

Combined Measurements.

Germans.		Irish.	
Transverse Diameter,	180 in 12 yds.	Transverse Diameter,	187 in 12 yds.
Longitudinal Diameter,	129 in 12 yds.	Longitudinal Diameter,	114 in 12 yds.
	309		301

Showing that the Irish are absolutely larger, taking 8 fewer to cover the space of 24 yards.

I find that the general average of sizes in Ireland, Scotland, West England, Wales, and White America, is the same, according to hatters' reports, on both sides. How, then, is it that American hatters almost unanimously say that the Irish have larger heads than the Americans? I think this must be owing to the fact that the Irish here are mostly laboring men, whose development is above the average of the Irish race of the cities. The same reason may explain why the Germans are, if anything, larger than the native whites of America. Yet it may be that the immigrant pioneers have larger average than their race at home, and that the American is somewhat less. The combined result would make the general average the same in the old and new countries. Several old manufacturers and retailers assert that the American head is getting less within their memory, and that the western new States, colonized chiefly by immigrants, have the largest sizes. This requires further proof. It may be, as one gentleman remarked, that the westerners are less particular in having a neat fit. A hat a little too large can be filled up, but a tight one cannot be so easily stretched; hence, hats are demanded by the country dealers a little over the true average.

The internal capacity and the outward circumference may not correspond in every individual case; but I hold it to be beyond question that those measurements have a general correspondence irrespective of shape.

If we must make a decision in this respect in favor of one or other race, then assuredly we must infer that the Irish have a larger internal capacity than the German, in proportion to the horizontal periphery, because the Irish cranium is more regularly shaped, filling the hat all round. Whereas the Germans have the most angular and irregularly shaped heads of any white race. In general, they do not fill their hats all round, the irregular protuberances forming generally a rhomboid, instead of a square, necessitate a larger hat than the head actually fills; just as the negro's wool gives an appearance of largeness to small heads.

We have also the fact often stated, in the reports by the oldest hatters, and by those who have made phrenological observations, that the German head is flat at the top. This accords

with my own observations on skeleton crania. Those that are angular in their periphery are also flat, if not angularly pyramidal in the coronal region. The Germanic skull is thicker than the Celtic. I have weighed only a few specimens of each, but I have no doubt in my mind that the Gothic skull is formed in accordance with the massive osseous system of the race. Further evidence on this point will appear.

Every ethnologist must have observed, what is a popularly known fact, that the Saxon, English, Lowland Scotch, and North Germans, are "a bigger boned" race than the Celts, in proportion to their size.

Dr. Morton knew very little of the white races. He left no material worth notice; and his editor, Dr. Nott, (I say it respectfully,) is all wrong in his conclusions regarding the Gothic and Celtic nations. He commits two chief errors; first in assuming that absolute cranial capacity is a test of superiority; second, that the Celts have an inferior cranial capacity.

The Celts, it is proved, have the advantage in absolute size of brain; but this would prove nothing for their superiority, if their jaws, spine, &c., corresponded. The Gotho-Germans are inferior; not because their cranial capacity is so, but because they have the broad, short base form of skull, with the large jaws and long spine.

Relative size is of more importance than absolute size.

Let us look at Dr. Morton's measurements. He divides the skulls into groups: Caucasian, Mongolian, American, and Negro; but without any regard to *types* in each group, mixing up Germans, Celts, Egyptians, Anglo-Americans, &c. He classes the Peruvian with the savage, the negro with the Hottentot and Australian. Dr. Nott and Gliddon's arrangement of the tables is not much better. I will, in the first place, give Dr. Morton's table, not in its original form, but in order, according to size, without regard to nationality, and then view the result.

The numbers of skulls from which Dr. Morton draws his deductions are very unequal. Thus he has eighteen German, six Irish, three hundred and thirty-eight American-Indian, seventy-three Egyptian, six Chinese, and so on.

The figures denote the internal capacity of the crania, and the *difference* between the largest and smallest.

Races.	Average capacity.	Largest capacity.	Difference.	Smallest capacity
English,	96	105	91	14
Germans. &c		114	70	44
Anglo-Americans,	90	97	82	15
Arabs,	89	98	84	14
Greco-Egyptians (from catacombs),	88	97	94	13
Three Esquimaux skulls supplied by Mr. S. Combe,	87			
Native Irish,	87	97	78	19
Malays,	86	97	68	29
BARBAROUS TRIBES.				
Iroquois. Lenape, Cherokee, Shashone, &c.	84	104	70	34
CAUCASIANS.				
Persians, Armenians, Circassians,	84	94	75	29
Polynesian,	83	84	78	2
Native African,	83	99	65	34
American born Negroes,	82	89	73	16
Egyptians (from catacombs),	80	96	68	28
Fellahs (modern Egyptian),	80	96	66	30
Hindoos. Bengalese, &c.	80	91	67	24
Mexicans,	79	92	67	25
Peruvians,	75	101	58	43
Hottentots,	75	83	68	15
Australians,	75	83	63	20

From an examination of the above table, it appears to me quite incomprehensible how Dr. Morton and the rest could have come to the conclusion that the mere internal capacity of skulls indicates the degree of intellect or the type of a race.

It is true, we observe that the European group is larger than any other; but this proves nothing as regards type; and Dr. Morton's tables, when viewed fairly and in the regular gradation of size, as I have put them, completely overturn his own theory that capacity is a measure of intellect. or a standard of types.

Dr. Nott attempts an improved arrangement of the table, in order to show that there is a declension of human types in proportion with the diminution of the internal capacity of the cranium. But his arrangement merely shows the notorious plastic and slippery nature of statistics, and how they can be made to prove two opposite theories.

Dr. Nott classifies together the Asiatics and *Northern* Africans, while he puts the Red Americans and the *Southern* Africans and Australians together, in order to make out his theory that types stand high in proportion to the size of brain.

This is an erroneous conclusion, which the table itself does not warrant. On the contrary we find that the *Anglo-Americans*, as they are called, are smaller than the Germans, or English. The Greco-Egyptians are smaller than even the semi-barbarous Arabs. The Irish are about equal with the Malays. The untameable savage red men are exactly equal with the Persians, Armenians, and Circassians.

The Polynesians and African negroes are superior in size to the American negroes, and both these are of superior capacity to the ancient and modern Egyptians and Hindoos. The negro brain is four inches larger than the Mexicans.

The Peruvians, the Hottentots, and the Australians, that is, the very highest American type and the very lowest African and brutal Australian are exactly of equal cranial capacity. The Esquimaux is eleven cubic inches larger than the Peruvian, seven inches larger than the Egyptian aristocracy and Hindoos, three inches larger than the Circassians or Persians, and is just equal to the Irish—eighty-seven cubic inches.

It is therefore perfectly clear that Dr. Morton's table proves the reverse of his and his editor's conclusions. In all my reading I have never witnessed such a palpable distortion of facts, originating evidently in a desire to put the English or Anglo-Saxon race at the head of all the world.

I may make another observation upon this table. It will be observed that the Germans, the red Indians, and the negroes, have, in their respective groups, the very largest heads and the very smallest heads, while the higher races present less difference in size. From this I infer that the monstrous irregularity of development which I have observed in the general anatomy of the Gothic, Negroid, and other inferior races, extends also to the growth of the brain. I have seen some large, square German-looking skulls, of immense capacity, in the Dublin university museum. They were marked "*Caffre.*" But observe! they had, like the German, the massive, unchiseled flat-face, wide between the eyes and ears, large malar bones, great jaws, and large occiput, that marked the Gothic type.

The five English crania of Dr. Morton's table average ninety-six, while the six Irish crania average only eighty-seven. Both the English and Irish are oval, and consequently Celtic; and if

a comparison of half a dozen specimens of each, afford a fair criterion, we should conclude that the British is superior in power to the Irish. This affirmation has been eagerly advocated and propagated by the whole English and American press.

From such miserably small data it has been dogmatically and pompously asserted a thousand times by the foremost writers and politicians and savans, that the Anglo-Saxon race is destined to rule the whole world.

This conclusion has been seriously arrived at, chiefly from the measurement of *five* "English" skulls, which *are not* Anglo-Saxon.

Dr. Morton produced his very learned work upon *Crania Americana* to the neglect of the crania of white Americans.

He gives the measurement of thirty skulls of various white races—the round and square Gotho-German, and the oval Celtic-British and American—all of which he is pleased to call "Teutonic." This is a mistake. But even supposing that that they were all Teutonic, thirty specimens are not enough to decide a national type. And six Irish paupers' or felons' skulls are not enough to indicate the average of Irish heads.

There is a very large element of Celto-Sclavonians in Germany, and the Celtic type in England and America is certainly the predominant.

Dr. Morton admits as much. He says that the English cranium itself is "less spheroidal and more decidedly oval than is characteristic of the Teutonic people." Again he remarks: "The Anglo-Americans possess, in common with their English ancestors, a more elongated head than the unmixed Germans."

Yet these oval crania—6 cubic inches larger than the German average—are put down along with the pure Teutonic, thus elevating the nominal capacity of the German. And from these distorted facts, the German race is put at the head of all others. It is undenied that the true Saxon and Gotho-Germanic skull is short and broad.

The oval English skulls are Celtic. Both history and physiology bear out this fact. They should therefore be classed with the Irish oval—not along with the Saxon round heads.

Dr. Nott earnestly labors to prove that races wont mix *permanently*, and that types *never* alter even with climate, yet it is assumed either that the Saxons and Britons have produced a permanent, *mixed*, oval-headed type of Saxons, or that the Germanic skull has *altered* its shape under a British climate.

The British and Anglo-Saxon races began to mix fourteen hundred years ago. If in that time they have not returned to original types, Drs. Knox and Morton are wrong in their *unalterable* theory. If the oval skulls are not true Anglo-Saxon, then it is wrong to class them as such.

I put myself to considerable trouble to examine the matèrial from which Dr. Nott frames his table and his Anglo-Saxonism.

Dr. Morton measured the internal capacities, and I do not question their accuracy. But the most important of all comparisons—that is, the relative weight and size of jaws of the northern and southern parts of Europe—has been overlooked.

I weighed the crania of white races, and in the following tables have put the weight, the internal capacity, and the catalogue number of the skull in separate columns.

It will be observed that the North European are much heavier, and their internal capacity smaller than the southerner, —not so much, I observed, from the thickness of calvarium, as from the larger size of the face.

Capacity and Weight of North European skulls, in Dr. Morton's Collection.

Gothic Forms (chiefly).

	Weight.	Internal capacity.	No. on catalogue.
"Anglo-American," male, originally marked "European"—old, dried, and eighteen teeth absent,	36 oz. 6 drs.	91	899
German—male,	36 " 1 "	78	1189
Berlin man,	26 " 6 "	80	1066
Berlin woman (Celtic form), 29 teeth absent,	24 " 4 "	82	1192
Berlin woman, 22 teeth absent,	25 " 2 "	80	1193
Swedish woman—8 teeth absent,	26 "	85	1247
German,	29 "	85	1188
	204 3	581	
Average weight,	29 " 1 "		
Average internal capacity,		83	

Weight and Capacity of South European skulls, in Dr. Morton's Collection.

CELTIC FORMS (chiefly).	Weight.	Internal capacity.	No. on catalogue.
Dutch noble (French form),	31 oz. drs.	114	434
Male—Frankfort-on-the-Maine,	31 "	106	1187
Female do.	18 "	93	1062
Male do.	27 " 6 "	95	1191
German man of Tubingen—(a fresh skull with all the teeth),	26 "	86	1063
German woman of Tubingen,	25 " 2 "	91	1064
J. Moran—"English,"	22 " 6 "	92	539
Irish—male,	24 " 3 "	97	42
Irish—female,	20 "	82	52
Gwillym (Englishman),	28 "	91	80
	252 " 1 "	947	
Average weight,	25 " 1 "		
Average internal capacity,		94.7	

Ten to twenty teeth absent in most of the skulls; all had the lower jaw, and were about averaged as to freshness.

These tables, from the same material of Dr. Nott's, prove that the Anglo-Saxon preëminence is altogether fictitious, and built up upon the Celtic element, surreptitiously introduced from South Europe. The true Gothic skull of the North European type, from which the Anglo-Saxons are descended, is four ounces heavier, and eleven cubic inches less capacity, than the South European. A number of Swedish and Finnish crania are in the collection, but not in the catalogue; and as the internal capacity is not given I need not make a table of them, but they come under review hereinafter. I have introduced only two Irish and two English skulls, because they are the only ones that could be called fair specimens. It will interest the scientific reader to know the kind of material that Dr. Nott has built on.

The following is the catalogue, with the number attached to each skull:

Celtic Crania.

18. The first Celtic skull on Dr. Morton's catalogue is that of a woman, small size.

21. The second "Celt" on the catalogue is evidently that of a red Indian, "*supposed to be* a *British* soldier, killed at the battle of Chippeway." But there is not one Celtic peculiarity on this skull.

Dr. Morton seems himself to have retracted the opinion that

it is Celtic, for it is marked "*European*," while it remains *Celt* on the catalogue. It is of so gross and heavy an organization as to resemble an Indio-negro more than a European. Dr. Morton had few Indian crania when he received this. In the present extended collection it is easy to see at a glance that this cranium is Indian, of the very same mould as the Quinnipiacks or the Chippeways. We shall see that the Gothic and red Indian types are very similar, and that it is easier to "*suppose*" this an Anglo-Saxon than a Celt.

42. Celtic Irishman, "aged twenty one; imprisoned for larceny, and in all respects a vicious and refractory character."

52. Irishwoman, slain along with the first at the battle of Knockinoss, county Cork.

57. Lunatic Irishman.

985. Irishman aged 60.

986. Anglo-Irish girl aged 12.

This is the entire collection of "CELTS."

Here, then, are the specimens which form the theory of inferior Celtic capacity—a red Indian or Goth, two women, a young thief, a lunatic, an old man (skull retracted at that age), and a child. Not one fair specimen of an Irish *man* among them. I discovered, indeed, in a dark corner, along with a Sclave, a *cast* of a large oval head that belonged to one of the O'Connors. Of course it does not enter into Dr. Morton's measurements.

Anglo-Saxon Crania.

59. The first Saxon on Dr. Morton's catalogue is the skull of PIERCE, a convict and cannibal—"a native of Scotland on the North of Ireland; very probably one of the bad breed—the Celto-Saxo-Dutcho Hybrids—called *Orangemen*.

62. The next Anglo-Saxon—a lunatic larger than the Irish lunatic—and, being of an oval form, is certainly of a mixed breed; not Anglo-Saxon.

80. Sam Gwillym, a convict; oval shape, and name purely Welsh; therefore not Anglo-Saxon.

991. English soldier, from Bloody Pond, N. Y., "the scene of Montcalm's massacre of the English garrison." It is oval, and, as most of the "English" soldiers were Irish, or Scotch, or

Welsh, there are fifty chances to one that this is a Celtic, not a Saxon skull.

539. Skull of James Moran, an Englishman, who was executed at Philadelphia, for piracy and murder. Although born in England the name is Irish, and the formation is somewhat more Celtic than Gothic. He is evidently a mongrel like Pierce, of the bad breed.

This forms the whole collection—a few Celts and mongrel ruffians put down as Anglo-Saxon. They are all full-grown men and therefore their aggregate internal capacity is greater than the skulls facetiously styled "the Celtic race."

The Anglo-Saxon theory of superiority is drawn from these few skulls, under false titles, by Dr. Nott, and the world of literature generally. Even learned men are easily led to flatter their own supposed race.

Anglo-American Crania.

There is not a shadow of proof that any one of the crania under this head, are of the pure old Angles or Saxon race. That they are hybrid is probable, and that they were born in America is all we know about them. As a collection, illustrative of the white race in North America, they are beneath notice, were it not to show up the kind of evidence that enters into the formation of *works* on ethnology.

The collection consists of:

7. An old woman aged about one hundred.

10. Skull of a boy aged eight years; swollen out by hydrocephalus.

14. A lunatic woman.

24. A female (*fille-de-joie*).

36. An idiot.

45. A lunatic.

88. A child.

98. A skull deformed.

458. An idiot woman.

562. A man.

This makes up the whole evidence upon Anglo-America.

We need not be surprised to find that the Americans, like the unfortunate Irish, are put down as of inferior cranial capac-

ity to the Germans. There is the skull of just one sane, full-grown man in the Crania Anglo-Americana. It is an oval head, with small face—evidently the son of a Celt, of British or Irish origin.

The lunatic crania, though not fair specimens as regards capacity, are unexceptionable as types. The lunatic American woman is a magnificent, elaborated, and chiselled skull, beautiful small face and oval cranium. The lunatic Irishman, according to sex, is coarser, but of the same oval, elevated, sharp-cut type. These and the lunatic Dutchman form the most remarkable of contrasts in the white races. The latter is angular, large flat-faced, and with enormously wide maxilla—very like a Huron savage—not at all like a so-called, Anglo-American.

The Gothic Type.

There are several superior specimens of Scandinavian and Germanic skulls in Dr. Morton's collection. I call them superior, because we can see every day, in the streets of New York, specimens of the race far below these. Yet the best are inferior with one exception—the Dutch nobleman. The others on the whole, present an organization not superior to the best of the savage Red Indians.

As I have already shown in the tables, the crania from Frankfort-on-the-Main, are, as we might expect from the proximity to the Celtic South, far superior to the North German and Scandinavian, especially in the proportions of face and head, and in the elevation of the mesial line of the face and the chiselling of the bones. The Swedes and Fins are broad, flat, heavy, large faced, and square headed, exactly like the carnivorous types, red, brown, and black, in the other continents. It would be easy to select even in this one collection, some red Indians, some Africans, and some Asiatics, and some Scandinavian; which, side by side, could hardly be distinguished—not more so than so many varieties of the feline species from the different continents.

Several of the Celtoid red Indians, are superior to the white Goths.

Beginning at the North, we find marked improvement as we approach Celtica of the South. Just as in Africa, improve-

ment is Northward, towards the same old centre. This I state as a well established general fact, from evidence that will appear.

In this collection of Dr. Morton's, there appears to be one or two exceptions in the Swedish crania, two or three of these, particularly No. 1545, have the oval cranium, rather small and well marked features of the Celt. The Finnish Swedes on the one hand, and the Germans on the other, have a more angular cranium. The Northeast-Swedes particularly, having larger and broader faces.

The explanation of this anomaly in favor of the Swedes, may be found in the circumstance, that the Swedes are neighbors to the Normans, and these are a cognate tribe with the Highland and Irish Celts, having oval crania, institutions, manners, superstitions, sepulchral, and other monuments, the same. Norway is exactly to Scandinavia and North Europe, what Wales is to England, Argyle to Scotland, Connaught to Ireland—the mountainous Western fortress of the Gael, retiring before the Gothic swarms. The Norwegians have an oval cranium,—this is proved by tens of thousands of facts in the hat trade of Glasgow. It is equally well established by *millions* of facts in the hat trade, that the true German or Gothic head is round or square. The one solitary fact in this collection, the cast of a Norwegian skull, is no exception to the rule. It might pass for a Highland, or a North of Ireland cranium.

The skull of an ancient Cymbrian is of the same stamp, being high arched and long oval, a complete contrast to the Germanic or Saxon type. The cast of an O'Connor's cranium is another example of the same North Celtic race, large oval cranium, features strong, cheek bones rather prominent, but not broader than the forehead, which projects over the face. The oval form and sharp cut of some of these Teutonic crania, may therefore be ascribed to Norwegian blood. This, I say, not from an opinion that the Gothic race contains no oval skulls, but from the broad fact that square heads are the rule among Goth-Germans.

But on the other hand, there are crania of a long angular shape among the Laps. Why not give them the origination

of the Swedish ovality? Because the crania of the Swedes are less angular and of a far higher type than has ever been observed in the far North, particularly as regards the prominence and elaboration of the facial bones.

We find in the crania of the Fins, and in some of the Swedes and North Germans, the angularity and large broad face, and heavy jaws of the true Goth. These crania, presented by Prof. Retzius, arrived since the lamented death of Dr. Morton,—had he seen them before writing his great work, the *Crania Americana*, there is no doubt that he would have observed the typical resemblance between the Goth and the Red man, and the Kaffir.

The crania of Germans in Dr. Morton's and other collections, especially those from Frankfort-on-the-Main, are superior to the Fins and Swedes, though not in all cases. I made about fifty measurements and observations on each skull, including the weight. But tables I need not give, as I altered my method and increased the number of measurements in my later investigations.

I consider it therefore, more faithful and satisfactory to furnish a general account, giving items when necessary.

The German crania are usually short and square, often unsymmetrical, the face proportionally large, jaws angular, palatine arch very wide and shallow. The teeth broad and thick, and the incisors are usually on the same line, the superior not overlapping, as I find among the Fins.

The foramen magnum is usually placed more posteriorly, the cerebella cavities are oblique, occiput broad and flat, wide between the ears, and in other respects more or less like the Fins.

The crania of Germans presented mostly by Drs. Retzius and Engleman, in Dr. Morton's collection, do not give a fair average of what is called the Germanic race, in as far as they are more symmetrical and oval than German crania notoriously are. The hatters' reports furnished, prove beyond question that the Germanic skulls, with *very rare* exceptions, are very round or short, square and irregular.

The Germanic breadth of cheek and jaw, and extraordinary

width between the ears, and the squatness of the whole Dutchman, are familiar to every boy in New York.

These German crania in Dr. Morton's collection, although inferior to the Irish and American, are above the average of the Gothic type. I do not think that Drs. Engleman and Retzius sent the worst specimens of their race.

Let us not continue to confound the Celto-Germans of the South with the Gotho-German and Saxon Aborigines of the North.

The Teutonic crania are all, with one exception (a dwarf), full grown men and women, and a superior class to the miserable creatures given as specimens of Irish and American.

The very largest cranium in the whole catalogue is that of a Dutchman, of noble family. He has a remarkably small well chiselled and Celtic looking face, quite a contrast to the true Dutchman, with massive jaws. Being of noble connections, we cannot therefore say that this skull is a true specimen of the Dutch. The next in capacity is from *Frankfort-on-the-Main.*

We must conclude therefore, from this exposition of facts, hitherto concealed from the readers of ethnology, that this collection of Dr. Morton's is worthless as the basis of comparison between the white races, and that the Germanic superiority trumpeted over the world, is entirely fictitious.

This collection, however, taken in connection with others that I have examined, will afford important facts regarding the general structure of types, and the radiation of races. The following are in Dr. Morton's collection :—

1534, "A true Fin ;" a massive heavy skull, might pass for a Shawnee or Chippeway. The cranium is short, broad, and small in proportion to the face, which is large, broad, and flat, the lower jaw heavy and angular, the mouth wide, the palatine arch wide and flat, the alveolar arch is extremely large and of a horse-shoe form, like some of the Kaffirs and red Indians, the malar or cheek bones, as in the Kaffir and low red man, are wide, and project beyond the forehead, the facial angle is of the average, because the mouth is widened, not projected, as in the herbivora ; this is one of the many examples of the fallacy of taking a facial angle, without regard to

the relative size and projection of the frontal and malar bones. This gross brutal skull, has a higher facial angle than some of the finest Celtic crania.

The position of the cerebellum in this skull, is oblique, or rather perpendicular, the animal region is wide and large in proportion. The *foramen* magnum is placed *posteriorly*, and is *wide* and *protruding* downward, as it is in the Kaffir and low red Indian type.

1247 (I. Cap. 85, weight 26 oz.). Swedish peasant. Having an oval contour, prominent nasal bone, and not quite so broad between the orbits as the other Swedes and Fins remarkably are, the palatine arch is smaller and deeper, but the alveolar angle of the lower maxilla is very angular, being wide behind, and coming to a point in front. The circle foramen magnum is also rather protruding.

1486. Swede (weight 31 oz.), more purely Gothic face, large, broad, and flat in proportion, nasals flat, and broad interorbital space, lower jaw broad and angular, both in the ramus and the alveolus. The foramen magnum is so far back, that we may say there is scarcely any occiput.

1487. Same general description as above—broad flat cheeks, broad and flat nasals, and interorbital space.

Here we have a repetition of the broad, flat palate, and alveolar arch of a horse shoe form. This is produced by the great width of the mouth, in proportion to the jaws. Foramen magnum not protruding.

1535. Swede; a short angular, heavy cranium, cheek bones rather large and prominent, giving a flatness to the face, the greatest breadth being across the molars and zygomata, the nasal bones are rather prominent, and the facial angle being average, the skull has a good appearance at first sight, but on a closer examination, it is found that the alveolar arch is very broad, coarse, and very flat, and animalized like the Kaffir. The foramen magnum is large, placed very far back, and protrudes downwards like the low Negro or Red Man.

There can be no greater mistake, than to call a skull like this Caucasian, or to give its facial angle and internal capacity, leaving all other more important points to the imagination of the student.

1544 (weight 29 oz.). Swedish Fin, of the same short headed description, but superior as regards the foramen magnum; the mouth is not so large, although the palate is flat.

1536. A skull like the last.

1545 (weight 23 oz.). Also Gothic, the lower maxilla very wide and angular, but the face is not so flat, nor the foramen magnum so animalized as in 1535, &c.

1546 (weight 29 oz.). A brutal Gothic skull, Swede or Fin, the cranium low, the face immense and very flat, nasals flat and broad, lower jaw angular. Here again we have the wide flat palate and horse-shoe alveolus, foramen magnum very protruding.

These Swedish and Finnish crania, are generally like the true Teutonic in the breadth between the ears and in the obliquity of the cerebella region. A form, as we shall see, easily convertible into the short, *flat head* skulls, which have actually been found in Germany, and will appear.

1547, 1548 (weight 31 oz.), and 1549. Are more or less identical with the above. The last especially, has a huge mouth.

1543 (weight 26 oz.). More oval, but with heavy jaws, and foramen magnum protruding and very posterior.

Conclusion.

Limited space compels me to conclude these brief extracts from a great mass of evidence. I may state in general terms, that the facts are new and interesting. The finest oval heads in the world belong to *Celtica*, as the old geographer *Ortelius* called Southwest Europe.

In Greece and among the Greco-Egyptians; in Italy and the North of Spain, and Southwest of France: in Belgium and along the sea-coast up through Norway; in Ireland and in the South and West of England, and West and North of Scotland,—the large oval Celtic cranium prevails almost quite unmixed.

Outside of this realm, the Celtic form merges into the Gothic, Asiatic, and African. In the South of Spain the Arab rotundity prevails. In the Northeast of France, the head is still oval, but shorter than the true Celtic.

Northward through Europe, and Eastward through Asia, the heads become round, then square or oblong square—rhomboid—unsymmetrical, and lastly pyramidal. The facial bones become gross and flat in the same geographical scale. These are the carnivora.

Southward through the fruit bearing countries, the omnivorous Celtic oval merges into the prognatheous herbivora in Asia and Africa. But mixed with these and chiefly beyond them, in South Africa and Polynesia, we come again upon the square carnivorous types.

The same radiating degeneracy prevailed among the Aborigines of the new world. The gulf of Mexico being the Mediterranean.

The Northward degeneracy of the Europeans, is corroborated by the reports of dentists and hair dealers.

To the above general rule there are exceptions: we often see individuals or groups in Celtica, arrested in development, and as far up as Lapland, some individuals attain high development. But the great fact of radiating degeneracy from the Celtic centre, remains.

On philological grounds the Goths are called Caucasians, but language is a false guide; the true Saxons are anatomically and morally identical with the carnivorous destructive tribes, that spread over North Europe, Asia, and America.

Even to this hour Ethnologists are puzzled about the white races. Dr. Davis, in his great new work, "Crania Brittanica," exhibits the *flat head* Anglo-Saxon crania, which he does not understand.

To the exclusion of better evidence, I have dwelt upon the material of Dr. Nott's work, because it is the most pretentious and widespread of our day.

I will ever feel grateful to the sons and amiable family of Dr. Morton, by whose friendship I gained access to the great collection in the Academy of Sciences, Philadelphia.

Intemperance in Europe and the East.—By Dr. J. Oscar Noyes.

There is nothing truer under the sun than the old adage, *de gustibus non disputandum.* When I was a votary of the scalpel under Hyrtl, of Vienna, that great naturalist used to bemoan the loss of an immense collection of anatomical specimens, worth several thousand dollars, at the capture of the city by the Imperialists in 1849. The Croats drank off the alcohol in which the preparations had been preserved, and trampled the

professor's household gods under their feet. The anatomical cabinet of Prof. Ruysch and daughter, of Amsterdam, was so admired by Peter the Great, that he purchased it at the cost of 36,000 ducats. The preparations were shipped safely to Kronstadt, but in passing from the latter place to St. Petersburg, the alcohol was spirited away, as in Vienna, and the collection totally ruined.

The Russians are in fact enormous consumers of alcohol. They send it against the Circassians as they have sent their Crabbes and Woronzoffs. The government derives a great part of its revenue from the excise levied upon intoxicating drinks. At the commencement of every term of the University of St. Petersburg, the servants (old soldiers who have distinguished themselves in the service of their country) are brought forward, and in their presence a portion of arsenic is introduced into every bottle containing an anatomical preparation. Even then they are required to take the oath of total abstinence. In Russia we might almost term alcohol "a fourth estate"—"a power behind the throne, stronger than the throne itself."

I think that travellers making a hasty tour of the continent are generally guilty of egregious errors in their estimate of the extent of intemperance in Europe, and its effect upon social institutions. They see comparatively few drunkards in the streets, and without caring to make a closer examination, are ready to affirm that intemperance scarcely has an existence—that France, Italy, and Germany, constitute the Utopia of moderate drinking. During a year's residence in Vienna, I had abundant opportunity to observe the extent to which alcoholic drinks were there used.

There are comparatively few drinking houses after our model in the Austrian capital, but the *gasthäuser* serve as lager beer saloons, and *liqueurs* are sold largely in the thousand and one cafés.

I am of the opinion that in Germany a greater proportion of the people indulge in alcoholic drinks, aside from wine and beer, than is the case among ourselves.

In the quarter of Vienna where I resided, one of the most genteel of the city, scarcely a Sabbath evening passed without drunken brawls, to end which the interference of the police was often necessary.

Cases of death resulting directly or indirectly from intemperance, as reported in the journals, were of very frequent occurrence. I remember, in particular, two remarkable instances of sudden death, occasioned by drinking large quantities of spirituous liquors.

The wards of the General Hospital contained about the

same proportion of patients whose diseases, hepatic and the like, had been induced by intemperance, as the hospitals in the United States.

Cases of delirium tremens were of frequent occurrence. One of the most common and obstinate forms of disease was distention of the stomach, caused by drinking inordinate quantities of wine and beer. So common was this, in fact, that some of the attending physicians used ordinarily to begin the examination of newly arrived patients by percussing them over the region of the stomach. I may state, *en passant*, that some of the moderate Germans boast of being able to drink a gallon of wine per day, and glasses of Teutonic ale too numerous to mention. Prof. Oppolzer, a physiologist and physician of world-wide celebrity, whose *cliniques* I attended, often deprecated the drinking habits of the Germans as highly deleterious to health and general happiness. And, in my opinion, the Vienese are more unhealthy and short-lived than the inhabitants of New York.

Hyrtl, by far the greatest anatomist living, often said to us that by a single stroke of the scalpel, in the dark, he could distinguish the brain of an inebriate from that of a person who had lived soberly. Now and then he would congratulate his class upon the acquisition of a drunkard's brain, admirably fitted, from its hardness and more complete preservation, for the purposes of demonstration. As is well known, when the anatomist wishes to preserve a human brain for any length of time, he effects his object by keeping the organ in a vessel of alcohol. From a soft, pulpy substance, it then becomes comparatively hard. But the inebriate, anticipating the anatomist, begins the process of induration before death — begins it while the brain remains the consecrated temple of the soul — while its delicate and gossamer tissues still throb with the pulses of heaven-born life. Terrible enchantment, that dries up all the fountains of generous feeling, petrifies all the tender humanities and sweet charities of life, leaving only a brain of lead and a heart of stone!

Vienna is one of the most dissolute capitals of Europe. The low morality — the indecencies exhibited on every hand — the universal desecration of the Sabbath — half of the births in the city illegitimate — the troops of legalized prostitutes — a single lying-in-hospital, to which a married female can scarcely procure admission, producing annually between four and five thousand bastards for death in infancy, or prostitution and conscription in later years. Would all these things be as they are if the Vienese were a temperate people? No one, I believe, can resist the conclusion, that in their drinking habits is the foundation of most of these evils.

Were the Germans to dispense with some of their wine, beer, and *liqueurs*, they would, in my opinion, become more clear-headed, sound-hearted and virtuous. The despotic, anti-liberal tendency of their literature would cease to exist, and German infidelity—that muddy stream of presumption and pedantry, would, when viewed in a clearer light, become more repulsive and less injurious. With them the grosser appetites are suffered to

> "——Drink up the liberal sap,
> The vegetating vigor of philosophy,
> And leave it a mere husk."

Moreover, wine and beer, with music and the concomitant pleasures, all furnished at a cheap rate, are acknowledged to be important means in the hands of German tyrants for keeping their subjects oppressed. Casks of lager-beer, butts of wine, and fiddle-bows—the props of despotism and the upholders of dynasties! This is not saying much for the gallantry and heroism of the people; nor, in my opinion, are they worthy of liberty who are willing to take in exchange for it the ravishments of wine and revelry. If it is melancholy to see an individual drowning his sorrows in wine, what is it to see cowardly nations dissolving their griefs and disappointments in the lethean forgetfulness of intoxication? And this is the case, not only in the Germanic States, but throughout Central and Western Europe—England in part excepted. It is in view of these facts that I consider the evils flowing from the use of intoxicating drinks in Europe, much greater than in the United States. The individual excesses may not be so apparent and repulsive as in our own country, where there is more activity and more complete exhaustion; where men establish new empires, kill polar bears, and get drunk with the same national enthusiasm. But Heaven preserve us from sinking into the Dead Sea of European intemperance, involving the loss of both morality and liberty!

Intemperance is astonishingly prevalent among the Slave tribes on the lower Danube. The Serbs drink their wretched *Slivovitza*, the Wallachs their vinegar wine, while the Greeks and gipsies dissolve their sorrow in Raki—the vilest possible counterfeit of brandy. The Wallachs also plant a plumtree at the head, and another at the foot of every grave, from the fruit of which they distil an odious but much-loved liquor: "a very literal illustration," says Paget, "of seeking consolation from the tomb."

The Koran is a judicious code of health applied on a magnificent scale. While we thank Mohammed for abolishing idolatry—wherever the faith of Islam is received—for destroying

caste and combining a certain amount of individual freedom with the traditional despotism of the East, we have also to thank that "sanitary commissioner run mad" for restraining millions from the use of intoxicating drinks, in a climate where the temptation to use them is exceedingly great, and the consequences more fatal than elsewhere. Alcohol decimated the English army in the Orient.

The Koran forbids the use of intoxicating drinks. The law of Islam is, however, capable of an elastic interpretation, and there are those among the faithful who contend that the interdiction is leveled against the abuse rather than the use of alcoholic beverages. Notwithstanding modern innovations, the great majority of Moslems condemn their use, even in the form of remedies applied internally or externally, believing with the Prophet that the "the sin committed in drinking wine is much greater than the advantage reaped from it." Those who have made the pilgrimage to Mecca are most scrupulous on this point. Generally they will neither smoke, nor drink wine—neither buy nor sell it—nor the implements with which it is made, in order to live by such traffic. The sumptuary laws of the Koran are exceedingly strict. "Verily," saith the Prophet, "the fires of hell shall roar like the lowings of a camel, in the bellies of such as eat or drink from vessels of gold and silver." Unfortunately, however, there have been many departures from the early purity of the faith of Islam. The island of Scio was conquered by the Grand Vizier, Kipriuli, on account of the excellence of its wines. Even the dervishes—those pious showmen and cunning Jesuits of the East, are not proof against alcohol. Many of the Sultans have been addicted to intemperance, and the last Padisha, Mahmoud, died of *delirum tremens* actually—though of tubercular consumption officially. One of the first acts of Abdul Medjid was to pour into the Bosphorus several thousand bottles of wine surreptitiously introduced within the walls of the seraglio by the Kisler Aga. Many of the soldiers of Omer Pacha drank freely of Schnapps, a vile liquid invented, they declare, by the devil, long after the promulgation of the Koran, and therefore not forbidden. I do not remember, however, having ever seen more than half a dozen Moslems completely overcome by the influence of *French water*.

There is doubtless much intemperance in Turkey that escapes the eye of the traveller, but by no means so much as might be inferred from the following, taken from MacFarlane's Kismet: "They (the Turks) have no sense of moderation. They may sometimes abstain, but they can never refrain. When they drink they invariably do it to excess. I never saw a Turkish gentleman sit down to his dinner with any appetite. The dan-

ger of dining with them, is getting fuddled before the dinner commences. Their stomachs are deranged and vitiated, and the effects of this way of living are visible on the persons of most of them. I certainly did not expect to find that the habit had spread very widely among the common people; yet, with a few exceptions, every Turk we met, either in Europe or Asia, would drink Raki without any scruples and quite openly; and it was not often that they would refuse to partake of our wine. Delirium tremens was a malady by no means unknown among them."

I once witnessed rather an amusing scene in Varna, [then a pandemonium of war and crime, of filth and wretchedness]—a scene of which only Western civilization can boast, and which was Oriental only in the accident of its locality. A few dissolute women who spoke the English language, but in whose persons Venus and Bacchus had united their worst attractions, were engaged in a drunken brawl in the open street, with a number of Scotch and Irish dragoons. The French police were attempting to abate the nuisance, but their words were entirely lost on those abandoned courtesans, following in the track of glorious war. A crowd of long-bearded Mussulmans collected to gaze on that singular *apotheosis* of Western civilization in their midst. I shall not soon forget how those turbanned philosophers did shake their heads, and turn away in disgust, saying: "O Allah, the merciful, deliver us from the faults of our friends. By the beard of the Prophet, one Mussulman maiden is worth more than seven of the most beautiful daughters of the unbelievers."

The use of Opium is by no means so common among the Turks as I supposed it to be. *Theriakee*, signifying a lover of Opium, is a term of reproach. The introduction of alcoholic drinks has doubtless had some influence in diminishing its consumption, but the great majority of the Turks are satisfied with the milder stimulus of their favorite Mocha Nectar.

But now and then in the vicinity of the *Theriakee Tchartchee*, in Stamboul, may be seen a Turk whose pallid brassy countenance, emaciated features and sunken eyeballs, glistening in their deep sockets, plainly mark him as a smoker of the *Madjoon*. In some instances hideous boils break out upon the face and neck of the sufferer, and in others the limbs are paralyzed. Yet they declare that the mental ravishment produced by their favorite drug, is cheaply purchased with these horrible sufferings. Those accustomed to its use frequently consume 100 grs. per day.*

* De Quincy used 800 grs. of Opium per day, and I attended a female in New York, suffering from a most painful cancer, in which 800 grs. were given daily for a period of three weeks.

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